METHOD IN MORAL SCIENCE.

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OBSERVATIONS

ON

METHOD IN MORAL SCIENCE

BEING AN ESSAY OF

CRITICISM AND SUGGESTION

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PREFACE

In submitting these observations on Method in Moral Science to the public we have described them as an essay of criticism and suggestion. Might we say here they are more. They are an attitude of mind. They are the consequence of the feeling of vague, unexpressed dissatisfaction with recognised moral science in relation to the living necessities of the time.

METHOD IN MORAL SCIENCE

CHAPTER I

THERE is no finality in science. Still less is there finality in moral science. If it was only through the necessity of readjustment in the light of later investigation, there must always be an element of perturbation in even our widest abstractions. Especially should such a factor of variance present itself in moral science, for there the chief factor, man himself, his motives and conduct, are ever changing. Who would dare to say that the spiritual insight, the moral ideal, and the standard of effective achievement of the race is to-day the same as it was yesterday, or will be to-morrow?

We grant you there is a longing for finality; that when a great writer in morals, economics, or political science lays down his pen at the close of the last chapter of his *magnum opus*, he hopes, nay, he implicitly believes, that he has crowned the edifice of the world's experience, that nothing clouds the light in his latest effort, and that it is for others to build fearlessly on the foundation he has laid. And his generation very

probably takes him at his word. It is left to a future Philistine to give expression to an innate sense of inadequacy by destructive criticism.

There are two tests of the rightfulness of the claims of a science to finality or completion. The one is a consensus of all competent and informed minds; the other is predictive certainty. These two tests must be rigidly withstood. They are the only guarantees of scientific certitude. Applying these two tests to the science of morals, to sociology and economics, to morals and æsthetics, we ask—Is there a consensus upon their principles, even their main principles? Are the logical inferences based upon these principles of the value of certitude in forecasting the future? We fear the only answer is, that there is no consensus upon any of their principles, and not the slightest certitude, and not much probability as to their forecasts of the future.

Now, we will not deny that among moralists, economists, and political writers there is an apparent unanimity on foundational matters, a general tone of agreement in their writings and speeches. There is a sort of *lingua franca* runs current through them, and which, so long as they are advocating the same views and the same measures, seems, and indeed is, a convenient and accurate enough vehicle of thought. It may be through subsumption, or through that unconscious thought continuum of suggestion which pervades all current literature, that apparent consensus is secured, but there it is a fairly useful polemical instrument. But let these doctors differ, let these

savants seek to come to the closest point of intellectual touch, let them seek to define in exhaustive terms, and forthwith the consensus disappears and a war of first principles ensues, conducted with all the bitterness which profound philosophers always exhibit in public controversy. In point of fact there is not one possible consensus, but two. There is the irrefragible consensus of scientific precision; but there is also an apparent consensus born of inadequate definition. Two diverse views will not apparently clash where each thinker under the same term thinks a different thought. For instance, in material science there have been many apparent harmonies which existed on the basis of erroneous knowledge. Light and air were generalised upon, and very beautiful theories formed of them which logically looked unassailable, yet which later discoveries dissipated like mist. Thus, in moral science, the vagueness and lack of precision in the terms used give an apparent unity to thought which is really non-existent. It is a consensus blind to essential difference; it is apparent, not real, and disappears at the magic touch of the analyst's wand.

Look at the precision of the exact sciences in matter and expression, the accuracy of their calculations of present and future events, the conciseness and accuracy of their terminology. A chemist announces that certain combinations of primary substances in defined quantities at specific temperatures will as a resultant give a new compound, stable, testable, and invariable. If the same experiment is repeated in Pekin and Peru, the resultant will be precisely the

same. And the whole process can be described in two or three letters with a number or so attached; and these apparently caballistic signs will to every competent chemist in every part of the world convey all the information necessary for the repetition of the experiment. Given the material and the directions, and the realisation of the result is assured. In the same way in physics and astronomy there is the same exact correspondence between knowledge, its accurate representation, and the forecast of future results.

Is there any corresponding accuracy and fruitfulness on the moral science side? We know there is not. Even the very fundamental conceptions and phraseology of these sciences seldom convey identity of meaning to any two minds. Patriotism to a Russian and Britain represents two very different ideas. Virtue to a Chinaman is something very different from the conception of virtue held by a New England Puritan. The ultimate spoken of by a Brahminical Hindoo has not the slightest resemblance to the ultimate talked about by a Port Royal Jesuit. The æsthetics of John Ruskin bear no relation to the standard of taste in Japan. If a person opened up a correspondence with distant friends in Europe, America, or Asia upon any one of the subjects named, he would require to append an elaborate explanation of the meaning and the limitations of the terms used. And if he received replies from his correspondents, he would be much surprised to find how much they differed from himself and each other, and how irreconcilable their views were on which to build a common platform of accepted knowledge. Certainly,

even in the event of a consensus, it never would or could be expressed with the same brevity and precision with which a fact of the same or parallel importance in the material or exact sciences could or would be expressed.

We say that the terms of the moral sciences vary in meaning between one individual and another. They vary also in meaning to the same individual at one period of his life and another, and under one experience and another. It is not accretion of knowledge merely, or greater expertness, familiarity, and precision in the use of the same terms. We say the whole conception and the sense in which the terms are used are different, are foundationally changed at one period of life from another. The terms themselves also change their meaning between one age and another. Why do we always publish new translations and editions of standard writers in moral science? Why do we have new editions of Plato, Aristotle, Kant, and Hegel? It is because the newer age has outgrown the old translations, their terminology has become obsolete and needs adaptation to later thought, which has unconsciously drifted from the original meaning. The later age was reading into the text more than the original writer intended. The later age was richer in its thought continuum, and was making the terms hold more meaning than when first they were given to the world. With all this element of vagueness and variability in the definition of essential terminology, is it any wonder that the historical inductions of the past and observations on the ever-changing present are, if

not worthless, vitiated and discounted from their inception; that the predictive forecasts of even accomplished moralists, politicians, and economists are generally valueless, and appraised at that negative value by the busy world at large. There is no consensus upon the alphabet of these sciences. There can, therefore, be no stable basis for foresight to look forward with certainty into the immediate, and still less the distant, future.

That these charges are not exaggerated, a reference to any vocabulary of philosophic terms is sufficient to show. We take Fleming's "Vocabulary of Philosophy" (4th Edition, revised by Prof. Calderwood, LL.D.), and turn to the term "idea," and we find the following definition, or rather description:—

"Idea—I. Common modern usuage—(1) In its widest sense, every product of intellectual action, or even modification; (2) In more restricted use, a mental image of an external object. II. Special usage—(1) Platonic . . . (2) Kantian . . . (3) Hegelian . . ." Continuing, the writer gives us examples of the common modern usage. So far as we can make out, he quotes ten authorities who use the term in different senses, or with important modifications or limitations. Altogether, Fleming's definition of the term "idea" occupies 6 pages of 228 lines, comprising about 2300 words. Such is the prospect held out to the good man in a hurry.

In despair we turn from Fleming to Chambers. We find the following:—"Idea, *n.*, an image of a thing formed in the mind, a notion, thought, opinion." We

cease to be surprised now at Fleming requiring 2300 words to define "idea." If all is in that term Chambers says there is, we are surprised at Fleming's brevity and conciseness.

We turn up another term in Fleming. It might be said that the term "idea" is just such a term as one would expect diversity of opinion upon. Well, we turn up the term "conscience." It is a word in every man's mouth, and meets the eye in every newspaper and every book. If the word has not one meaning and one meaning only, British literature is in a very nebulous, not to say chaotic, condition.

"Conscience (*conscientia*, . . . joint or double knowledge), that power by which we have knowledge of moral law. This word is similarly compounded with 'consciousness.' Conscience expresses more abstractly, 'knowledge with'; consciousness, the state of mind as possessing knowledge—knowledge of self and of present experience. As the name for the moral faculty, conscience expresses (1) knowledge of the relation of action to moral law—the more usual meaning, or (2) knowledge of the agent's relation to the moral governor—knowledge with God. In its ultimate and strictly moral sense, it is the power revealing moral law within mind and of sovereign practical authority on that account. . . . There is considerable diversity in philosophic usage, of which examples follow." Then Fleming quotes the views of Butler, Whewell, Adam Smith, Stewart and Reid, Mill, Bain, Sidgwick, and Kant. Each of these authorities use the term "conscience" with limitations or differences

of some kind or another, yet of such importance as to be clearly noticeable and expressible. Are we wrong, then, in saying that there is no consensus upon the alphabet of moral science, and that the terms of moral science differ in meaning between one individual and another?

Of equal importance is it that we have no efficient mode of expressing or conveying accurately and instantaneously the relative importance of the abstractive factors in a reasoning process in morals. Indeed, preliminary to that conception, we may say our present logical methods take no adequate cognisance of the relative importance of ideas, and have no means of fixing upon the mind the precise value of subjects of comparison and argumentation. How differently do we value specific data. To one person a certain consideration is all-important. His neighbour treats it lightly, although equally admitting its bearing upon the subject in hand. They both use the same terms, and profess to refer to the same thing. Yet a vital difference exists. How are we to estimate with exactness, and state with precision and in convenient terms, this conceptional variation? One set of facts determine the public mind to-day. To-morrow they carry a very different value. Yet how express the change? The terms used are still the same. But though there is no change in the terms of expression, we are conscious of a change in the thought substance. In public discussion a series of trivialities bearing upon a subject matter will outweigh a single fundamental truth. A debater presents seven points bearing upon a question.

His opponent only presents one—may be has only one to present. Yet that one may outweigh all the seven. All the same, the audience does not see this difference in relative value. There is no way to let them see it. It is only actual experience, a method of rule of thumb, that enables a few to prefer the one fundamental consideration to the seven considerations of lesser weight presented on the other side. We do not say it will be easy to remedy this defect; it is there all the same. The difference in value of the thoughts compared is unconsciously or vaguely apprehended. It would be supremely desirable if we could make the apprehension more specific and more prompt. We want a better mode or method of co-ordinating our ideas in terms of relative value. Important ideas bearing a visual signification of their importance and of the exact amount of their importance whenever and wherever used.

To say that these foregoing observations are new would be absurd. We only state them because they are universally admitted. They are no less universally deplored. What we have to do is to find a remedy more or less effective. It would be a libel upon humanity, a conscious defeat of the mind in the search of truth, to sit supine in the face of such admitted weaknesses.

One practical proposal given to the world through more than one source was made by Prof. Balfour of America. After examining a large field of mental and moral science, he came to the same conclusion that most people come to, that vagueness, inadequate and variant

definitions, lie at the root of all the confusion and nearly all the want of progress in the science of mind and philosophy. He suggested a conference or congress of savants, who would take up seriously this question of definition. He wanted a consensus upon the meaning to be attached to any term used in mental and moral science, and all writers and translators rigidly to adhere to what we may term the official or orthodox interpretation. This seems a hopeful, practical suggestion. This is an age of conferences—social, scientific, medical, political, and religious. Why not add one more to their number? A conference of psychologists, logicians, moralists, metaphysicians, and philosophers, met, not to discuss but only to define, sounds promising. Subsections appointed, to divide and apportion the labour, would in a few years determine the proper meaning and the only meaning to be applied to all terms used in philosophical literature, and invent new terms for such recurrent meanings as have taken refuge and concealment under one common term. Yet still we are not satisfied with even the realisation of that proposal.

CHAPTER II

We would not, however, have the labours of such a conference stop at an official set of definitions. Much of the terminology of the moral sciences is not only inexact, but it is cumbersome and inadequately expressive. Indeed, this is the fault of all our literature aiming at the treatment of social and moral phenomena from the scientific standpoint. The most important of the subject matter investigated is relativity, and relativity involving a quantitative element; yet to express the infinite complexity of quantitative social and moral relations we have no terms of more precise meaning than more or less and their variations.

Observe how in higher logic and metaphysics the processes of accretion and discretion, after a few thought movements, become involved, obscure, and difficult to follow,—not from the obscurity of the thought itself, but from the cumbersomeness of its verbal setting. In a few removes it requires phrases, and in a few more would require, and does require, paragraphs to state precisely and exhaustively the thought differentiated. Is it not the fact that experienced readers in metaphysics find it a strain to follow the expressed thoughts of others, though the writer is seeking to

convey precisely the same idea as is present in their own mind, by reason of the inexactitude and cumbrous length of the terms used? We must find a remedy for this evil. Chemists were in precisely the same predicament. It became very difficult to find verbal terms to express the immense mass of results obtained by chemical research without having recourse to phrases and sentences, and indeed in the more complex processes to paragraphs of words. Chemists had therefore to discard verbal in favour of significant forms. In these they found an instrument of expression, brief, precise, and fully informatory, expressing quantitative as well as qualitative relations with equal ease. That meant, of course, a double trained speciality—a specialist's knowledge of chemistry and a specialist's knowledge and training in terminology. Advanced chemistry became a double cult, their knowledge veiled from the vulgar in esoteric signs. We want metaphysicians to do the same. They are face to face with the same problem. The elements of their science and their primary combinations can no longer be efficiently managed or expressed in verbal terms. They, like the chemists, must fall back upon significant forms.

In chemistry sulphuric acid is represented by the formula H_2SO_4, which states to the informed that the product sulphuric acid contains two items of hydrogen, one of sulphur, and four of oxygen. We may place the two forms together for comparison, and contrast them thus—*sulphuric acid*, H_2SO_4. It is to be noted that they denote the same thing, a chemical compound.

There is no ambiguity under either form as to the substance meant. But while the thing indicated requires for expression thirteen characters in the verbal form, it requires only five in the significant. So far, then, as economy of labour is concerned, the advantage is all one way. But while we have exhausted the usefulness and potentialities of the verbal mode, we have not exhausted the advantages of the significant mode. The significant form states not only that there is a substance called sulphuric acid, but that it is composed of three substances—hydrogen, sulphur, and oxygen. Not only so, but that these component elements are present as one part of sulphur, two of hydrogen, and four of oxygen. Still more, the order of chemical combination is given in the order in which the letters composing the sign are arranged. The verbal formula expresses the qualitative element only, the significant formula the quantitative as well. Even the differentiation of sulphuric acid from all other substances is accentuated by the fulness and exhaustiveness of the recorded contents of the sign. The difference between the two modes is that between an ordinary and a technical dictionary. The one gives you a vague impression; the other lets you know all that is known of the subject. The verbal term is barely informatory; the significant sign bristles with useful points. And all these advantages within the compass of five characters.

It is this system we want moral philosophers to adopt: moralists, economists, psychologists, logicians, and metaphysicians. We want all the elemental or

foundational truths of moral science stated in such brief, precise, and expressive formulæ. Every single character used in the sign must convey a truth. And not only that individual truth, but its qualitative and quantitative relations to essential preceding, succeeding, or co-existing phenomena. We want all this expressed in a combination of characters which will meet the eye, and be covered by the eye instantaneously. We don't expect that such a process of signification will reach far down from the *à priori* in the multiplicity of thought moments and thought movements. But we are confident it can be realised in the primary essentials, and with experience would be gradually extended to a growing or extending circle of thought combinations. When begun, such a mode of expression would from its convenience never be lost. Whatever additions were made would be permanent gain to facility in dealing with thought.

Neither would we seek to impose this additional phase of intellectuality upon the general student or the general reader. But for those who meant to adopt moral science as their life work, we would make it, as chemistry does, a *sine qua non*. All the advantages claimed by material scientists to accrue through this superior method of expression would accrue to moralists. Its brevity and informatory character would all be theirs. It would be even more useful. For, in material science the phenomena are stable, permanent, always accessible; while the phenomena of the moral sciences are fleeting, hard to grasp, still harder to fix. Besides, the personal element in

material science is almost non-existent. In moral science the personal equation is one of the most important elements, and always variant. If these significant forms are so useful among stable phenomena, how much more useful will such a full and yet precise and adaptable method be in moral science. Indeed, not how much more useful, but how absolutely indispensable.

Under our present cumbrous terminology even elemental truths require more words than one to express them. The very simplest combination or relativity has to be expressed in phrases, and even in paragraphs. Under this necessity the unity of the conception is destroyed. It is rolled out through a succession of terms, and the meaning is apprehended in a succession of independent efforts or stages. The apprehension is no longer instantaneous in time. An appreciable interval of time occurs in picking up the meaning of each term. An appreciable disintegration or opening out of thought takes place. You become unnecessarily conscious that you are dealing with a complex instead of a simple thought. The subconscious basis of instantaneous becomes lost. That is the mental feeling even when you are dealing with a unity instead of a complex. The thought loses its apparent homogeneity; it drags its slow length along. Instead of appearing as one thought, as it is in your mind apart from the terms used to describe it, it appears, like the words, multiple. Need it be said that such a verbal necessity leads to weakness, to

want of grasp, to a loose vaccuous extension, of mental effort fatal to discovery or progress.

We can show in another way the gain to mental science of the use of significant forms. Every concept and notion, while simple from one point of view, is in reality a veiled complex. Its multiplicity is not lost, only merged in unity. Now, whatever the conditions conditioning or accompanying this unification of thought may be, the element of time is one. The particulars of the concept are a matter of separate gathering. As you collect in your mind all the individual data, the end of the process dawns upon you, and the particulars begin to close up and coalesce. At first you have to cast your mind's eye over all the particulars to grasp the perfect concept. But with practice you cease to do this consciously. What before was many operations becomes one. In perfect mastery of a concept all sense and all reality of time is lost, the thought in all its fulness is present to the mind instantaneously. It is like a point in space without dimensions. But you could not say that the concept was only a point in time during the period of its acquisition, until by practice the rapidity of the mental operation becomes such that all measure of time is lost. At first it was an operation, now it has become an intuition. It is the instantaneous flashing of the many into the one. Now, it does not matter for our purpose whether this element of time is the constitutive factor of the concept, or an accompanying factor, a necessary condition. In either case the facility and completeness with which a concept can be presented to

the eye in all its fulness in characters expressive of qualitative as well as quantitative relations is one of the utmost value to quick, and therefore to clear and correct thinking. Indeed, if our view as to this condition of time is correct, then all progress in thought contains a corresponding modification of the time element, rapidity reaching to the point of instantaneousness or annihilation, and being the necessary step in advancing from particularity to the concept, and from the concept to the notion. Conversely, diremption, discretion, passes immediately from a time moment to a time movement synchronously in descending from the one to the many. Suppose by this or any other arrangement the rapidity of apprehension was quickened, suppose that in one given fraction of a second you could apprehend more, suppose that the thought we now consider a point of time is in reality a measurable time process and we shortened this process by ever so little, what might not be the result? Say that the thought moment is now measurable by the ·0,000,100 part of a second, and you could quicken the thought process by ever so little, say, to ·0,000,050 part of a second, what might that not embrace. The wave length of the colour red is ·0,000,430, and the wave length of orange ·0,000,425. Yet that infinitesimal difference conveys to the mind the differences in colour we recognise as red and orange. The most trifling difference, then, in facilities of apprehension, in assisting the mind to that instantaneousness of synthesis we call concept or notion, might have the most radical results. If we were dealing

with material science we would have no hesitation in saying that it would enable us to discover and apprehend a new cycle of abstract principles, a still further encroachment upon infinity. Is it unreasonable to express a similar hope in moral science, that our so-called elements of thought under our present thought time-rate have a large discoverable area lying behind them which might be brought into consciousness under more effective conditions of thinking. We want deeper and closer thinking, and that is a matter of condensation and rapidity. All thought has a material instrumentation, and this instrumentation is an essential and invariable concomitant of all thought. The efficiency of this instrumentation of thought we know, as a fact, is increased by all those contrivances which assist the eye and ear in gathering or conveying meaning.

If we might state another point in favour of significant forms, it is their total detachment from derivative and other associations. Terms in philosophy are invariably chosen from their derivative or associative meaning. They seldom express the meaning with the required narrowness; there is always more in them than the philosopher means and wants. They have always an unexhausted quantity of association. Even where a word is taken by a particular writer, and expressly used by that writer in other than the ordinary sense, there is ever the tendency of the mind to take in ever so little of its customary meaning. The customary meaning is impressed on the memory every hour of the day and at every turn. Now, sig-

nificant forms are absolutely impersonal, absolutely unassociative. They convey not a particle of meaning *per se*. The only meaning they convey is what is consciously and purposely put into them, that and nothing more.

Turn to any work on logic, and there review a catalogue of the judgments and categories. Say we take the four judgments and twelve categories of Kant. At the most superficial look at them does it not strike you that verbal terms are cumbrous and unsuited for complex phraseology? In the mere statement of them 189 letters are used. To express their simplest correlations cumbrous phrases and unpractical paragraphs are required, involving a most extensive and unnecessary expenditure of alphabetical powers. Contrast the brevity and paucity of the signs denoting the elements of chemistry with the complexity of verbal terms used to express the elements of mental science. We present them in the following table:—

Quantity.	*Quality.*	*Relation.*	*Modality.*
1. Unity.	Reality.	Substance and Accident.	Possibility and Impossibility.
2. Plurality.	Negation.	Causality and Dependence.	Existence and Non-existence.
3. Totality.	Limitation.	Reciprocity.	Necessity and Contingency.

Instead of the present verbal mode we suggest the substitution of significant forms always to be used in the same specific sense. We are not prepared to say that our proposed signs are the best that can be in-

vented, but they are sufficient to indicate our meaning, and we await suggestions.

Q.	*L.*	*R.*	*M.*
1. Q.	A. L.	S. R. and A. R.	$_1$M. and $_2$M.
2. Q.	B. L.	C. R. and D. R.	$_3$M. and $_4$M.
3. Q.	C. L.	R. R.	$_5$M. and $_6$M.

An abbreviation of these characters at first will only lead to facility in writing and a greater concentration of thought. The present terms are too long and explanatory for continuous use, and they continue to be used by experts in all their cumbrousness, who have no need of such assistance, and to whom they are inconvenient and a barrier to further and equally necessary thought combinations. We want a synthesis of a number of primary thoughts at present expressed under several terms, to be thought of as the synthesis of a single term is, and that synthesis expressed under one convenient and significant sign. A better illustration of our idea would be found in Hegel. Take his categories of the subjective and objective notion. They are so well thought out that they may be taken as independent schemas. Now in these two schemas the order, the co-existence, and the relations of every one of the categories could and should be expressed in a brief formula of letters and numbers expressing all that Hegel postulates of them. Where no natural connection or order runs through them, we would have the numerical order of their definition expressed in the significant form. Observe we make a distinction between the verbal terms necessary to require a knowledge of a concept at the beginning, and the sign made

briefly to represent the same thought when used by experts in future reading, investigation, and discussion. In the latter case comprehensive and expressive brevity is of the utmost value.

It may be said we have this abbreviated formulæ, we have now and constantly use alphabetical letters and algebraic forms in our logical and metaphysical writing. We reply that an alphabetical letter is a sign but not a significant sign. Nor yet an exclusive sign—that is, it is not applied exclusively to one content. If verbal terminology errs in length and inexactitude, the formulæ *a, b, c* and *x, y, z* are empty, non-significant. The letters and numbers composing the formulary we have before our mind must express fully and always a specific informatory content. In every science as much progress is made through improved instrumentation as by original investigation; indeed, the very first step in progress in art and science is to improve the instrumentation. It is no less so in thinking and writing. We must all be conscious of the additions to intellectual results which follow upon common-sense practical arrangements.

CHAPTER III

We have spoken of the superior position of the material sciences compared with the moral. If you asked "the man in the street" which division of science had made most progress and was most surely founded, he would never hesitate a moment in replying that the material sciences had made most progress and were most certain. This representative general opinion needs some examination.

This opinion cannot mean that by progress is meant body of thought, originality of speculation, or persistent activity in the discussion of problems in moral science. When were the speculations in philosophy bolder, the analyses in metaphysics keener, the insight into moral problems deeper, or the practical efforts at the realisation of these problems so numerous, so generous, or involving so much voluntary agency and private effort. Take the philosophies, the speculations of Kant, Hegel, Fichte, Comte, Herbert Spencer, and Hartman, and view them purely as efforts of mind, are not their grasp of the problems involved, their statement of them and their solutions of them immeasurably before anything ever attempted in the world's previous history? The logic and metaphysics of Hegel are as superior to the logic and metaphysics of Aristotle as the physics of

Lord Kelvin are superior to the physics of Archimedes. Or take morals pure and simple; take the speeches of Wilberforce and Bright, the pulpit oratory of our day, and say is there any comparison, in their tone—nay, is there any connection, with the moral sense of the distant past? Or take, again, general literature,—are we not conscious of the fulness, the body of thought, contained in our best literature now, compared with the thinness and the trivialities of ancient history. Turn up the leading articles in the newspapers of even fifty, sixty, eighty, or a hundred years ago, and the reader is struck with the poverty of the thought, the thinness, the artificiality of the articles compared with the freshness, the fulness, and the touch with actuality of the best newspaper writing of our own day. Neither can it be in the record of our accumulated experience in morals. For one book published in material science there is certainly a hundred given to the world on matters pertaining more or less directly to moral science. In whatever sense, then, it is said that material science is more progressive than moral science, it cannot be in the sense of accumulated, successful, and original effort.

Still, when you compare the results of the two great divisions of human thought, it is impossible to deny that their progress is not of the same kind; and it is this difference which to the popular mind conveys the idea of greater progress. To begin with, the observations and generalisations of material science meet with general, we may say universal, acceptance. Their results can be tested by convenient experiments.

Their forecasts are fulfilled with singular accuracy and precision. Their knowledge can be conveniently stated without ambiguity. If there are any gaps in their knowledge, the fact of their weakness, their limits, and effects are precisely known. Further, the moment a new discovery is made, it is at once diagnosed and relegated to its proper place in the science schema, and all its correlations at once established. There is no loose knowledge or shadowy knowledge in the realm of material science.

Now turn to the moral sciences. The philosopher having thoughts of a perfect synthesis is confronted with an immense mass of disorganised materials waiting for adjustment, so great, indeed, as to paralyse his initiative. Then the extreme complexity, the intricacy of their correlations, their constant variation, present additional difficulties in dealing with those phenomena. The degradation or decay of races, movements, and opinions, has no counterpart in material science. The element of human will, of determinate conduct, not only in a right but in a wrong direction, is a constant factor in moral problems. Besides, human conduct is determined not only by the past and the present, but by anticipation of the future. There is no conscious, well-directed experimental tests. There are not only immense gaps in moral science, but very few even of their first principles have received the consensus of the average of enlightened minds, *e.g.*, the Roman Church still teaches the metaphysic of the scholastic philosophy. There is nowhere consensus; everywhere doubt, dispute, unrest. The new facts or observations are more

difficult to individualise and synthesise. There is everywhere a sense of incompletion, a waiting for new light. These are formidable differences in any comparison between material and moral science, but they are not all. Very large sections of opinion have arrived at the conclusion that moral phenomena, the phenomena of sociology, economics, and ethics, cannot be scientifically treated, or, at all events, scientifically treated in the same sense as we apply these terms to material science. Still a larger number are of opinion that it is wrong, irreverent, and sinful to apply the rigorous methods of the exact sciences to the phenomena of religion and morals.

It is right to notice here that if spiritualists say it is sinful as well as impossible to apply vigorous scientific methods to spiritual phenomena, the other school are equally decided in asserting that the only possible hope of order in the spiritual chaos is to attack the problem from the material side. They would extend the method of strict science into the moral and spiritual world, and such phenomena as could not be brought logically under their criteria of truth they would place in a hypothetical category, or they would ignore, or they would deny that such came within the circle of truth. These argue that to start from material science through biology to supra-organic phenomena is the order of development pursued by nature. They say that every stage of thought progress is the encroachment of the material upon the spiritual, and looking at the broad history of this movement in the past, the ultimate sinking of the unsystematised spiritual into

the harmonious scheme of the exact sciences is only a question of time. They say that there can be no gap in truth; that there is an unbroken continuity in phenomena; that the universe is a unity, not a duality. We are not jealous of this claim, nor fear this effort. Whatever it does, it will either join in a coherent whole the spiritual and material, or it will show the precise line of demarcation between the two.

This point of union of the two great divisions of thought is very close; this interdependence of mind and matter is very real. Let us give a practical illustration. Not that there is any dispute as to the fact of this interdependence, but to bring home afresh the closeness of the two classes of phenomena. There is a small gland situated near the base of the neck called the thyroid gland. It is so small that its functions were unsuspected and uninvestigated until a few years ago. Certainly no anatomist considered its functions of any importance, or that its condition had any relation to mental states. It came to be noticed, however, that certain forms of mental disease were coincident with an impaired or an atrophied condition of this gland. In those cases the individuals became stout or gross in body, morose in temper, their memory became impaired, and they were subject to extravagant delusions. There can be no doubt about these facts. They have been observed in hundreds of instances. The proof of the true interdependence of the phenomena is furnished by the cure. It occurred to a physician that an extract or preparation of this gland, which is largely developed in some of our lower animals,

might act as a cure or palliative. The effects were wonderful. Persons stout, morose, forgetful, and delusional, after a few months' treatment with this preparation, became clothed with all the lost decencies of civilisation and in their right mind. An impaired physical organ affected body, emotion, moral sentiment, and intellect. Seeing thus how close the interdependence of mind and matter is, people with eyes turned towards the light and with thoughts of synthesis would be foolish to other than welcome the assaults of science on the remainant moral chaos from the material side.

It may be said that is an abnormal experience, the record of physical disease and disaster. Well, be it so. We will give another dealing with the normal, and with an important bearing upon the latter part of this essay.

Music approaches nearest to thought itself in its freedom from physical limitations and in its creative and idealistic powers. It has been described as the highest form of poetry. That is nonsense. But our highest poetry set in our finest music is as near the celestial as anything on this side the grave can be. Still, music without poetry is a wonderful power. To some it suggests thought, in others it stirs emotion. Music arouses awe and devotion. Who has not felt the thrill run through him, of a cathedral full of worshippers, at the rolling sound of the organ? The identity of the emotion stirred in the mass thrills even the unsympathetic. The music ~~receives~~ secures an involuntary consensus of devotional or religious emotion.

Yet not a word is heard or understood of the hymn or chant. It is called forth entirely by the music. We have seen a musician draw tears of pity from a foreign audience, few of whom knew the words and meaning of his plaint. Indeed, it was noticeable that those only who did not know the language were affected to tears. Music stirs the steps of the dancer and erects the bearing of the soldier. In battle, what breathes such courage into the soldier's heart as the wild wail of the bagpipe, or the roll and rattle of the drum? An oratorio is a real soul tragedy. Yet, at the same time, this powerful spiritual form is only ordered vibratory motion, which can be classed, measured, and numbered with the greatest accuracy. We are not confusing the mechanical effort with the psychological effect. We are only affirming that various mental states—mental states recognised as belonging to our highest being—are affected, are stirred to activity or jarred to painful discord by mechanical force capable of exact scientific determination. This is really important. To a large section of humanity emotion and feeling are more important than intellectuality. Certainly a large section, indeed the largest section of humanity, are influenced by motives of an emotional kind, and constantly live in an emotional atmosphere. Now that an emotional condition can be reached and moved by a form of mechanical force extraneous to the individual, and that form of force can be precisely measured and estimated, seems to approach the foundations whereon a scientific correlation between thought and forms of force may be accurately laid. The art

which can be reduced to most perfect ordered relations has greatest influence over the subconscious and static elements of the mind itself. In æsthetics coming through the material, we approach nearer the inner arcana of mind itself than through any other agency, excepting thought itself. Even in respect to thought we question if it has equal power over the will and emotions. We know of persons compelled to yield their will and emotions under the spell of music who were amenable to no other voluntary or involuntary influence. We have seen crowds swayed by the passion of music as powerfully as by the appeals and denunciations of oratory.

Taking all kinds of music, they may be classed under three heads: Music produced by concussion, such as the drum and piano; music produced by air compression, such as the human voice, the trumpet, and the flute; music produced by friction, such as the violin. Notice the first class starts from utmost power and dies gradually away. In compressional music there is gradual ascent to point of power, and a gradual fall away. In friction there is the creation of sustained vibration approached from the moment of absolute stillness or rest. But all are sound waves produced by vibratory motions in material objects.

These vibratory motions powerfully affect our will and emotions. As we vary the vibrations we vary the character of the mental state. By varying the vibrations we mean their strength, their volume, their variety, their velocity, and their depth. It is impossible to doubt that we have here a true correlation, a

correlation in which one of the elements, and that element determining the character of the others, can be reduced to conditions favourable to scientific treatment, of which quantitative relativity is one of the most important. Given the precise velocity and depth of these wave sounds and we predicate the mental state around. This is a general law, and is not weakened by some apparent exceptions.

It is also noticeable that these sound waves are generally divisible into those affecting the male and those affecting the female sex. There is a large ground common to both. Still the male voice starts on deeper chords and has not the range and sweetness in the higher notes the female voice has. In the same way the female voice, starting from a higher note, takes a higher range than does that of the male. Now the lower notes are produced by slower and deeper vibrations, and the higher notes are produced by the quicker and shallower vibrations.

It seems also to be a law, or, at all events, a correlation, that the slower and deeper vibrations, or, as we call them, the coarser vibrations, affect the coarser part of our nature, and the swifter and shallower vibrations our higher nature. The coarsest form of music is the tap of the drum, and in all ages and among all peoples, the French and the Malays alike, the drum has been used to stir the courage and incite the valour of the soldier. The plaintive sound of the violin is, with the wild sigh of the Æolian harp, the finest vibratory form of music, and we have seen sensitive natures affected to sadness and tears at their sounds.

It is very noticeable that the Japanese have made the same distinction of male and female as applied to colour, and that the female colour is the shallower and swifter rays of light, and the male colour the coarser and slower vibrations. That seems to point out another correlation. Is there a similar tacit association as to external form?

Particular individuals have a penchant for a particular note or chord, or are specially affected by a particular musical note. The writer has his special musical and spiritual affinity. Particular districts affect a particular class of music. A person's taste for music develops as his moral character strengthens and improves. In our rowdy days we affect "For he's a jolly good fellow." In our dissipated period we sing "Vanicula, vanicula," or "Ta-ra-ra boom-de-aye." When we are fathers of families we sing hymns and enjoy oratorios. If we live to develop the æsthetic sense or the philosophic consciousness, we enjoy, or say we enjoy, the mysteries of Wagner and Beethoven. Particular classes have their particular musical sympathies; nations also. The musical type of the British people is specifically distinct from that of the French, and both of these from the Italian. The music of Germany, Hungary, and the Slavonic peoples is distinct in character from all three.

If music stirs or stimulates our emotions and affects our will, the character of the music specially affected in any country, the music that has the greatest hold on the people of that country, will be representative of the dominant moral characteristics there. But music on

its material side is a form of phenomena capable of the most exact scientific determination. In these circumstances we seem approaching the realisation of a mechanical equivalent of moral force, with all the advantages attending such a scientific mode of estimation.

We see the reason why music has such a great educational influence, and that musical people develop moral qualities superior to those the circumstances of their environment and their personal experience are calculated to call forth. Our music teachers will now see that according to the character of the music taught, its tone and sympathies and syntheses, will the moral emotions of their pupils be. The bizarre musical jargon, taught to develop or exhibit mere mechanical skill, not only jars upon our nervous system, but destroys the continuity of that moral synthesis nature is ever seeking to build up within us. Sweetness, tone, harmony, continuity in music are the mechanical correlatives of our higher moral nature. It is a proverb among the people that those that cannot be stirred by music are bad at the bottom. In the case of men that popular observation is often true, and in the case of women generally true. Like most of the people's prejudices born of experience and observation, there is more philosophy in it than meets the eye.

While we are on this subject we may make another observation showing how the discovery of new truth fits into and fills out the common synthesis. In Marconi's recent invention of wireless telegraphy, the

static condition of certain molecular particles are disturbed by the vibratory motion initiated by sound. The normal molecular condition of these material particles is restored by a gentle shake or tap. Thus there is a regular alternation of disturbed and recovered molecular form. Music seems to operate in a similar manner upon the cerebral particles or cerebral cells. The vibratory motion of the note strikes and disturbs the static condition of rest in these particles and cells. There is, then, an effluence or liberation of mind force, which we recognise as a form of consciousness. The only essential difference we can see is that in the case of Marconi's instrument the after-tap restores the normal molecularity; while, in the case of cerebral phenomena, the vibratory concussion disturbs the normal molecularity, which is recovered through, or in consequence of, the effluence itself. That is, in the disturbance of cerebral form the recovery of that form does not require a further specific act. In vital phenomena the recovery of the normal organic synthesis is automatic, or a part of that reparative process always going on in the synthesis. That would establish a fundamental distinction between merely material phenomena and the material functioning mind, or being functioned by mind.

Viewing, then, these inquiries and others like them, is it not manifest to every one how useful they are in our endeavour to reduce to order our universal experience, or any part of it? If it is said such speculations come close up to or encroach upon moral

science and moral questions, we reply, so much the better. It is synthesis we want. If we cannot get it from the spiritual side, we must endeavour to get it from the material side. But scientific order we must have. If there is much in life we cannot scientise, and we believe there is, we want the line of division sharply and clearly drawn. Then we will continue our synthesis from that line on other grounds and by other methods.

CHAPTER IV

We have seen that the differences between the material and moral sciences are no light differences, but are really fundamental. It does not follow, however, that, allowing to the fullest extent for this difference in their subject matter, the moral sciences are not capable of a strictly scientific treatment. If there is a line beyond which the methods of material science cease to apply, we can begin at the other extreme from the deepest spiritual, and, advancing through experience, touch or overlap, or come within view of that asserted or assured borderland, where the supra-organic, the organic, and the material come within touch of one another.

As, however, the success of the scientific method in the exact sciences is admitted, and as we could not hope for a more assured or better ordered synthesis in moral science than we have already in material science, it seems best to examine the methods employed in the two great divisions of thought, and see what methods are employed in one division and not employed in the other; see what course of procedure is more successful in the one division than in the other; and, finally, see if we cannot apply this more successful

mode to the more complex phenomena of moral science.

Viewing the principal differences in method as applied to the two great divisions of mental activity, we should say they are—

1. The general use of the *à priori* and deductive method in the moral sciences.

2. The comparatively limited use of the inductive method in moral science, and its almost universal use in the material sciences.

3. The greater brevity and precision with which operations and results are recorded in the material sciences as compared with the moral.

4. The power of applying experimental tests in the physical sciences, and the almost impossibility of applying them successfully to moral problems.

5. The more exact demonstration of all relativity in the physical sciences as compared with the moral, and the measurement of quantitative relativity in terms of exact number.

These are the principal points of difference that strike one on a general survey of the methods pursued in the two great divisions of investigation. It will be noticed that none of the modes of research are peculiar to any one division of thought. All five modes of procedure are used in both the physical and moral sciences. The differences are purely those of degree, but of such degree as to constitute essential difference.

As to the first point, the *à priori* method, it essentially belongs to moral science, and is, indeed, the foundation on which all moral science is built.

But a double logical process, so far from being a disadvantage, is a source of strength and additional power.

As to the second point, the comparatively limited use of induction in the moral sciences, there is more to be said. Of course, in sciences having an *à priori* foundation, deduction is a necessity. But the tendency of the mind in these cases is to rest there, to be content with deductive reasoning. Once started with a stock of *à priori* principles as the measure and test of truth, the inclination is to apply them always and at all times. They suit the lazy and lethargic mind. Inquiry does not so much daunt them as disturb them, suggests the need of fresh inquiry, fresh trouble and intellectual effort. Now there is a vast field for induction in the moral sciences, and it is a splendid exercise to build your thought up as well as to lead it down. The *à priori* method is carried far too far down, and is applied to phenomena to which it is wholly unsuited, and is often a simple excuse for evading inquiry as to the soundness of main assumptions. We think, then, that induction should be far more generally used in moral science than it is.

The third point we have already dealt with in the first part of this essay.

The fourth point is experimental verification. We know of no suggestion we can make. We distrust all specific social experiments. The conditions are too complex, the power of eliminating disturbing or unknown elements too unreliable, to render such experiments of any scientific value whatever.

We come now to the fifth and last point, that of the more effective treatment of relativity. This is the real crux of the problem. Upon its more scientific treatment we depend for what practically means a revolution in the treatment of moral problems.

It may seem at first sight that this indictment of our present methods in the treatment of moral problems is, at most, an insignificant one—that our mountain in labour has brought forth a mouse. It is not so. The mass of relativity in the moral sciences is vastly greater than the corresponding relativity in the physical sciences, and infinitely more complex. Recognised specific differences in moral science are those of degree rather than of kind. The data of the physical sciences is very largely made up of matters of direct observation, the differentiation of specific fact. In moral science, on the other hand, the phenomena to be systematised are so subtle, so interwoven, so conditioned by the environment, so coloured by the investigator's own personality, that relativity forms the bulk of the thought mass to be treated. In seeking to reduce such relative knowledge to scientific order we are confronted with the following difficulties—

1. The terminology of quantitative relativity as applied to moral science is loose and inexact.

2. As there is much of the phenomena pertaining to human experience unimportant and incapable of classificatory arrangement, it is difficult to know what to retain or utilise for classificatory purposes.

3. That qualitative relativity cannot be precisely quantified.

4. That the process of comparison of various moral data is difficult, inadequate, and in the main unsatisfactory.

5. That for the purposes of comparison, large aggregations of phenomena are required, and this aggregation requires some better method of generalisation, reduction, and expression than we have at present.

6. That we need a better mode of eliminating the personal equation, and thus render our units of synthesis more stable and reliable.

In these six affirmations we have the crux of the whole problem, the barrier to the reduction of moral phenomena to scientific order. Remove them, or palliate them, and we take a step nearer the hope and goal of a final synthesis of knowledge.

We will take up first the inadequacy of verbal terminology to express quantitative relations. The verbal terms of quantity in our language are very numerous. So far as a general impression or general estimate is sought to be conveyed, there is an abundance of forms from which to choose. But strip these terms of their literary setting, place them together, compare them, and observe their limited range, their meagre character; practically they are only these—much, more, most; little, less, least. You may speak of a little more, or rather less, but the estimate underlying these modifications is only to be apprehended by those familiar with the tone and attitude of mind of the speaker, and with some considerable knowledge of the subject matter. At their

best we must admit how vague these verbal terms of comparison are. To no two persons do they convey the same practical meaning. They are applied to the most delicate judgments and finest comparisons. Yet the verbal terms, used as instruments of comparison, are coarse, obtuse, and unscientific.

Here it is material science has, in its method, secured the greatest advantage over her more spiritual sister. By the use of numbers her relativity has been fixed and expressed with the utmost precision. In figures you have measures of the utmost capacity and of the most extreme minuteness. You may state in fifteen or sixteen figures the distance of a star, or you may discuss the gap between the wave length red, 0·0,000,430, and the wave length of orange, 0·0,000,425. The power of expression of magnitude and difference by figures is practically unlimited. There can be no doubt, also, that they convey a much more definite and accurate impression to the mind. To say that the sun is an immense distance from the earth, though a matter of open-mouthed wonder, is not specifically, if at all, informatory; but to state that it is 95,000,000 of miles from the earth, or that it is 250,000 times further away than New York is to Edinburgh, or that to get to the sun by express train would take over 200 years, you state what is not only striking, but impressive and informatory. These concrete instances of precise measure affect the most scientific as well as the most unscientific mind. Constant familiarity with them, and constant consideration of data of exact distance, tends to their realisation by the mind in a sense as vivid and

true as that of the surroundings and appurtenances among which the scientist labours. His conception of solar and astral distances is as true, and practically grasped, as that of distance in Great Britain is grasped by a railway guard on a main line express.

Our difficulty then is, that for the coarser, or relatively coarser, phenomena of material science we have the most perfect instrument for the statement of precise relativity; while for the far greater, more important, and more delicate and subtle relativity of moral science, our vehicle of expression is vague, excessively limited, and quite obtuse. It will be conceded, that if we could apply the conciseness and precision of numbers to the relativity of all moral science, that science would have made an immense step in advance. If that should be impossible, to bring any section or any considerable section of moral science to this proximately or preliminarily scientific condition would still be an immense service.

The second difficulty we have to meet arises from the fact that much of the phenomena pertaining to human experience is unimportant and not worth classification. For instance, the fact that the inhabitants of a country take their noon-day meal at twelve or one o'clock we cannot conceive to be of the slightest importance, but that the inhabitants of a country dined invariably on a vegetable or on an animal dietary would be of importance. Further, that comparing the morality of one religious communion with another, that one habitually fasted one day in the week, or abstained from flesh meats one day of the

week, might be very important. Still, the reader will perceive that a vast mass of phenomena are not worth classifying, because among other reasons the variety of conduct among individuals corrects variation, departure from custom on one side being made up by departure from the general custom on the other. We take it that a very good rule is that all the statistics you can induce the Government to collect, and all the statistics public societies voluntarily collect, are worth the trouble of careful examination. We think there is not the slightest danger for many years to come of an over-gathering of materials. Our complaint would rather take the form of not sufficient use being made of the materials already to hand. No one without experience has any conception of how fertile with obscure truth the most unpromising statistics are, and how phenomena the most disparate can be brought within the reign of law. For instance, suicide seems about as independent an act as any person could commit. So many causes can operate to produce the condition of mind leading to the act, that beyond the age and sex of the individual statistics would seem to have nothing to reveal. We find, however, that the largest number of suicides take place in June, and the fewest in December. That clearly points to heat, and the relaxation of the will consequent upon it, as the main cause of suicide. We know the bracing effect of the cold bath. Winter's cold is bracing. As the weather cools there is less waste, and the system begins to build up tissue and power for the winter. Conversely, with the coming of summer there is a growing waste

of tissue, and under growing temperatures a weakening of will leading to a greater proportion of suicides. For a full appreciation of the usefulness of statistics, we commend our readers to Mayo Smith's work, "Statistics and Sociology," where he will find an abundance of curious information.

CHAPTER V

THE last four difficulties in formulation we propose to meet, in the first instance, by taking concrete instances and working out the problem on a better method, which, we believe, we have established. After giving our illustration, showing the practical working of the new method, we will summarise the results, and ask our readers if we have made good our points and secured a real accession of power in dealing with moral phenomena.

Suppose in moral science we approach the scientific determination of the term "morality." It is an abstract term that embraces a large content. We would, first of all, simply enumerate all the states of mind or constituent elements included under it. If you ask a moralist how many factors are included under the term "morality," he would probably say he could not tell, it was a matter of dispute. Yet if you asked a naturalist how many species were contained in a particular class, he would be ashamed if he could not answer. Therefore to state with numerical precision the number of distinctive qualities recognised as belonging to morality seems a necessary preliminary. We want a consensus on the constituent elements to begin with. Suppose,

to open our illustration, we assume a consensus of eighteen elements, we would enumerate them thus in alphabetical order :—

Affection.	Friendship.	Prudence.
Benevolence.	Honesty.	Reverence.
Courage.	Industry.	Rightfulness.
Duty.	Love of approval.	Self-restraint.
Firmness.	Patriotism.	Self-respect.
Fidelity.	Patience.	Veracity.

Discussion would open as to the exhaustiveness of the enumeration. Some might suggest that hope was a true element in morality. We may admit it is, and thus bring up our analysis to nineteen elements. Another critic might say you have double stated some of these qualities—fidelity and duty are one and the same. So, also, are patience and firmness. Again, rightfulness, veracity, honesty, are just different phases of the same moral quality. If you admit a distinction between rightfulness and honesty, why have you omitted justice?

Of course our reply would be, that duty is a social moral relation, fidelity a personal one. We would say that firmness is persistence in action, while patience was persistence in bearing or submitting to the inevitable or the unjust, long-suffering. As to rightfulness, we would say, the sense of right as to our word to our neighbour and to the property of our neighbour were two forms of one identical moral element, but that justice, having not only a social but a state element in it, rightfulness adjusted to consideration of the highest

national interest, may be considered as an independent constituent of morality.

We are aware that under a closer analysis we might, we may say would, reduce these nineteen elements to a very few root principles. We view them, however, from the point of view of practical life, and in our everyday experience these different phases of morals are specifically and recognisably distinct. Just as you can reduce genera to species, species to orders, and orders to divisions in organic life, you can abstract in morals until you have only one or two principles left. But as the higher abstractions in natural history do not destroy special differences and the usefulness of special differentiation, so in morals the constituent elements we have tabulated are clearly marked in action and recognised in the converse and literature of the day. In point of fact, while people have a clear understanding of what is meant by such terms as veracity, honesty, justice, a generalisation of these terms to a single term, rightfulness, would not add to, but only obscure the light. Anyway, the subject has as a preliminary to be thrashed out.

Assuming, then, the number of elements of morality to be nineteen, are they all of equal value? This is an important point. A large school of psychologists claim that all moral elements are not only essential but of equal intrinsic importance. The other school hold that though all the elements of morality are equally essential, they are not equally important. Just as the thyroid gland is as essential to the human body as the liver, yet no one would say it was as important. As-

suming, for a moment, that these constituent elements are of equal importance, then it follows, all these recognised constituent elements will form one-nineteenth part of morality as a social force, will have constituted one-nineteenth part to the creation of that civilisation of which morality is the foundation. But suppose these constitutent elements are not of the same value, suppose some are more important than others, how are we to measure them? How are we to deal with cases where individuals, speaking or thinking of morality, treat it as a complex, not a unit?

The constituent elements of morality are not identical in value, and the next thing we have to do in its scientific treatment is to measure or apportion the relative value of all these elements. We will endeavour to form a precise numerical estimate, assuming the value of morality as m. 1000. Repeating our amended table of contents, we give our provisional estimate thus:

Morality
m. 1000

·052 Affection.	·052 Friendship.	·040 Patience.
·046 Benevolence.	·052 Honesty.	·052 Prudence.
·068 Courage.	·040 Hope.	·040 Reverence.
·068 Duty.	·064 Industry.	·052 Self-restraint.
·052 Firmness.	·064 Justice.	·052 Self-respect.
·046 Fidelity.	·040 Love of approval.	·052 Veracity.
	·068 Patriotism.	
·332	·380	·288 = m. 1000.

Thus we tabulate and value in specific number the contents of the term "morality." We claim to have reduced that term to scientific form. We have

quantified a judgment of quality in specific number, have given to all the elements in the content a specific proportional relation to each other and to the abstract term "morality" which includes them.

Even at a first glance, the superiority of the proposed mode of treatment strikes one. There is a fulness, accuracy, and exhaustiveness in the method that was not there before under the old form of analysis. To affirm that duty is an important element in morality is little, if at all, informatory. To state that the element of duty in morality is as ·068 is informatory. The statement further indicates that there remained elements of value, other than duty, to the extent of ·932. You can compare any two elements of the term one with another. Instead of the vague generality of verbal terms you have the precision of numbers. The new mode lends itself to the most subtle and accurate analysis. As an instrument it is a lancet compared with a sword. If two writers are engaged in a controversy in which any elements of morality are concerned, say the influence of courage or duty in a field of moral activity, it is open to one to say, I hold courage or duty at this common estimate of ·068. It is also open to the other to say, that in discussing this matter it should be known that he uses courage as of the importance of ·074, and duty as of the importance of ·062. Such a qualification or reservation would undoubtedly make the writer's position much clearer than if he said that in the present controversy he held courage in higher esteem, and duty in lower esteem, than the common opinion estimated them at. Certainly there are many

movements in which only a section of moral elements are engaged. If morality was one homogeneous force, all moral movements would be of one value and one character. But in a moral movement involving only a part or side of morality, to know and estimate the value of what is not engaged, of what is not then operative, would certainly tend to accuracy of judgment upon the event.

It may be said, the more precise expression of relations, of differences, adds nothing to our knowledge that we did not possess before. We answer, that when the number, length, and depth of the vibrations constituting what we call light were first ascertained, it was proclaimed as a great triumph of knowledge over ignorance hiding under a vague terminology. Is increased exactness less a triumph when applied to morals? At the time of the better expiscation of the phenomena of light, the new discovery was regarded as a scientific curiosity. Who could foresee it would ultimately be of any service to humanity? So we may say to those who object to greater precision in method applied to morals, no one knows what the ultimate consequences will be.

It may be said, you by this method put fetters upon thought, destroy that plasticity which enters into all the terms used in moral science, which resembles the plasticity and adaptability, the characteristic of all organic form. We say we want all moral phenomena subjected to rigidly scientific treatment, and to that end precision of estimate is essential.

It will be said, you will never secure a consensus to

your figures, it is practically impossible; the estimate of a clergyman, a citizen, a scientist, a lawyer, or a soldier will all be at radical variance. We answer, it is just through this difference of opinion, of even informed opinion, and variety of experience, we hope to attain to impersonal precision. We will average these various estimates. It is through the number and variety of opinions taken that we propose to eliminate the personal equation and obtain a stable abstraction. We seek a wide consensus.

CHAPTER VI

We have found this new aid to method useful in analysis, enumeration, in comparison, and in the valuation of the constituent composite elements of a term. These useful data could have been attained no other way. Further, we have reduced qualitative contents to quantitative equivalents. We are, however, still face to face with the most difficult problem. So much of moral phenomena are fleeting, variant, and apparently unrelated, that for any possible schema or any tentative efforts toward a complete schema, we have this heterosity not only to particularise but reduce to manageable proportions. We must have abstractions not only of the simplest phenomena, but also of phenomena of the widest and most varied character, embracing thousands of particulars and judgments, if we are to have units representative of movements, peoples, or eras, points of unification on the one side, and stepping-stones to higher synthesis on the other. We want to reduce to order current facts and social forces, not on an individual or parochial, but on a national scale, to render our mental picture of the national life an accurate chart understandable by all. We want a brief recognisable sign of a great complex.

We will turn our attention first to economics, to see

what light their treatment can throw on the method of dealing with similar problems in moral science. Economics are classed among the moral sciences. They are so classed because, among other reasons, economic phenomena contain a psychic element. The psychic element is the determinative element. For though economics means the science of human material well-being—the standard of need, the goal of satisfaction, are all determined by psychological conditions. Wants, desires, aims, all precede their satisfaction. A consideration of the particular facts of economics is a study of the materials and processes by which human ingenuity has gratified them. The wants and inventions of humanity are stereotyped in the material objects it has created. If man's organism is nature's realisation in matter of her own inner idea, civilisation and the conditions and circumstances attending it are man's realisation of the same idea as it appears to him. How vast the material of interpretation is. All that he has reclaimed from the wild, all that he has built, his means of transport, his manufactures and commerce, all his art and science. If we wish to study man as he spontaneously manifests himself, we have the elements in economic science.

In economics the same difficulty experienced in all moral science of formulating an immense mass of heterogeneous and variant particulars was strongly felt. At the same time the need of abstractions on the widest national scale was no less a constant and pressing problem. In the case of commodities, for example, they had, in the first place, to recognise that

there were tens of thousands of them, that the prices of these commodities varied among themselves, and that prices varied from year to year. Over and above this difficulty of particulars there were known to be causes affecting the value of all commodities together—causes affecting the supply and demand of the nation as a corporate whole. Now, though it was not a matter of general concern to discover the causes of particular changes in value—that might safely be left to the private buyer and seller—it was of the utmost national importance to discover and foresee the operation of those wider influences which affected the prices of all commodities together.

A solution of this difficulty was found in the discovery of what is called the index number. The problem it solved was to fix in stable form, for purposes of comparison, the average of prices in any one year or for any period. To reach this standard of value they selected a hundred representative commodities. These were chosen as varied as possible, to fairly represent the national want supply. The prices demanded for these articles in the nation's markets were taken from official or well-authenticated sources. The average prices for each commodity for a twelvemonth were taken. These averages were then added together and divided by a hundred. The product was the index number. It was the recognised sign of an abstraction of millions of particular transactions. Having thus secured the index number of one year, the index number of the same commodities was made out for the year ten years preceding. The results were com-

pared. The difference between the respective index numbers was a certain indication of any change in general prices, and whether that change was in the nature of a rise or a fall. These index numbers were made up in decennial periods till the beginning of the century. The comparisons thus made were perfectly trustworthy, as the disturbance following upon individual or particular variation was overcome by the extended area which the articles enumerated covered. Each decennial index number was then compared with the history and movements of the time. Thus much light was thrown upon those wider causes which affected the wants, the purchasing power, the supplies and the tastes of the general body of the people.

Could there be anything at first sight so natural and simple and so apparently unimportant. Yet it is very important that a large class of variant phenomena is thus fixed, that a large flux of heterogeneous particulars has been rescued to scientific examination and treatment; that we have created a useful unit of thought, before non-existent. Observe that though it is in the form of numbers, it is an abstraction from particulars, and as such as true and new a contribution to knowledge as any abstraction in the exact sciences. It is an abstraction in a moral science obtained and only obtainable through the use of numbers, and can only be expressed in exact or effective numbers. In so far as it bears this numerical character it is an innovation. It is an innovation so far as it substitutes the plasticity and precision of numbers for the vague generality of verbal terms. And it is an innovation because it in-

troduces into moral science an instrument of synthesis hitherto exclusively confined to the exact sciences. Further, the phenomena abstracted contain a large psychic element, and in so far as they can be shown to be in correlation to the particulars of the abstraction, in so far do they share in definite scientific treatment.

Why should such an intrinsically useful and promising process stop there? It is true that the phenomena abstracted and quantified are, in the first instance, prices, and therefore particulars of number. But we have seen in the case of the abstract term "morality" that we have successfully applied a process of quantification. Is it not possible to apply the idea of the index number to complex phenomena, embracing not only judgments of quantity, but also judgments of quality, relation, and modality? There is nothing like experiment or practical illustration. Suppose we state another case in illustration of the potentialities of the new method, fixing, through number, fleeting and variant thought. A banker is much troubled in mind and judgment by the frequent changes in the circumstances determining the price of gold. He tries, as his forefathers have done, to rely upon his memory and judgment. He finds his mind has continually to think his subject out from the beginning. He has not the means of recording his accumulated experience. He could not transfer the accuracy of his judgment to others, or leave the grounds of it as a legacy to those that come after him. He knows his son or successor has just to go through the same anxious and

expensively bought experience that he has done. Above all, he cannot discuss with another banking expert the grounds of his judgment, because a common platform of determined knowledge is not with them. He resolves to try an index number on the conditions affecting the price of gold. Being an old university man, he has been deterred from the experiment, because he had always been taught that exact quantification—quantification reduced to precise number—was only possible to judgments of quantity. He begins by putting down all the present sources of the world's production,—the general cost of mining, the world's consumption or waste, the opening of new fields, the exhaustion of the old. He would state, as near as he could, the world's hoarding, temporary or permanent, the competition of silver, the growing use of paper, and the extension of credit as affecting the use of gold, its utilisation in art or use in fashion. There are many other considerations, but these will suffice. We are not asking our banker to undertake a new task. It is done every day by thousands, we believe tens of thousands, all over the world. But they do it *ab initio*, and by rule of thumb every day. Their task is never-ending, because they have no stable method for accumulating and correcting their experience. Having exhausted the enumeration of the constituent elements of the problem, our banker would estimate every contingency in precise numbers corresponding to the relative importance of that contingency in relation to the whole problem. That would remain to him always as the alphabet of his scheme. He could correct or

compare his estimations of value with others. Once fixed or formulated, he would modify it according to the changes which affected any of the contingencies. His first effort would probably be expressed in round numbers, or relatively round numbers. But as time went on, his approximations would become more precise, and more precise expressions would require to be used. Every week he would revise his estimates. Year by year the accuracy of his scheme and its corresponding value would increase, because the smallest differences and variations, not expressible in verbal terms, could be expressed in numbers, and because in numbers there is that invariable consensus of expressed variation which brings mind in touch with mind. In a few years such a scheme would be practically useful; in a generation it would be a nearly perfect instrument for estimating current fluctuations and changes. Yet the subject matter is as complex and variable and difficult to follow and fix as that of any problem in morals *per se*.

Economics offer a wide field for the exercise of this form of effort. We see no great difficulty in forming an index number on the standard of comfort of the people. The materials are there to hand. It is more difficult, but equally feasible, to form such a standard for each country in the world, and for each century of the world's history. Similarly, an index number on the nation's thrift would be equally useful. But we would make no limitations. Whenever such a stable thought unit could be formed we would make the effort. Even where success did not immediately

present itself, it is still worth a trial. It is at the least gathering materials for others to use. Who can tell in what distantly removed field of investigation their value will come in? For instance, from the statistics forming the index number of material comfort, we would seek to form a scientific estimate of the relative happiness of a people, now and formerly. And from the statistics of thrift we would seek to scientifically determine the amount of voluntary privation or self-denial exerted, matters belonging to morals *per se*, and which have not hitherto been examined under scientific methods.

Take another instance of possible usefulness, this time from sociology. The trusted whip of the party wants a sure measure of the public influence of his party in the country. He wants to be able to tell his chief at any moment how the party stands relatively to its position at the last general election. At present such estimates are occasionally successfully formed by the leaders in full touch with the organisation of the party in the country. For instance, the late Mr Adam, when Liberal whip, announced to Mr Gladstone some time before the general election the precise, or very nearly precise, measure of his triumph. The present Sir John Gorst, when organiser for the Conservative party, achieved a parallel success. But what is done casually, or by party managers of exceptional ability, we want to be done always, and by men of ordinary talent. Let that party whip form an index number on the strength of his party in the country. Let him begin with an index number formed for each constituency. His local

manager would take the number of the voters at last election, the attitude of the local press, the number of men of local interest attached to his party, local questions of such interest as to affect national considerations, the finances of the party, etc. All these local managers would estimate the same contingencies in every constituency. When these local returns came up they would be easily compared with one another and corrected. Then to these as a basis would be added general considerations. The party programme: Has it been curtailed by practical legislation? New questions, new parties, new men, and new agencies, press or otherwise, must be duly and precisely estimated. The present members of the House: Do they stand where they did in the opinion of the country and their own districts? The party leaders: Are their powers the same? Are they still living forces, or extinct political volcanoes? Is their popularity on the wane? All these, and a hundred other points besides, are the materials which must be gathered, estimated, formulated, and upon the results your index number formed, which would remain as the unit and standard of comparison year by year. Every passing event that affected the party locally or nationally would call for a readjustment of the index number. In a few years that instrument of measurement would have acquired practical accuracy. It is evident such a scheme would become a party possession and inheritance. It would pass from whip to whip and from committee to committee year after year, and from generation to generation. A general

election would be the final test of the accuracy of its adjustment.

How valuable for the chief of the staff attached to the headquarters of an army to have a method by which to establish an estimate of his own army as an effective field or fighting force, and at the same time a standard of comparison of all his possible opponents. He would require an instrument not only reliable but of the utmost precision, elasticity, and delicacy of adjustment. We can see no more effective mode than forming an index number of his own fighting force and corresponding indices of all other armies or possible antagonists. The chief of the staff would begin with the men, their numbers, courage, intelligence and initiative, endurance, and shooting skill. Then he would take the officers, and estimate their morale, their skill, and their interest in their profession. He would estimate to a decimal the armament of his men, the artillery, and the equipment. He would note any circumstances that would tie any of them up, such as unfortunate colonial expansion or disaffection in the state. All these points and many others he would enumerate, tabulate, and value. He would express his estimate in definite figures. There is no room for slipshod work or vague guessing in things military. The very effort to enumerate and to express in precise numerical terms your estimate of every circumstance bearing upon the problem gives a thoroughness, a searchingness, if we coin a term, and at the finish a definiteness of the utmost value to the specialist.

Having made a schema of his own army, he would form one for every other army his own was likely or unlikely to come in contact with. When that work was done he would realise the position of his own army and its relative position to all other armies.

CHAPTER VII

HAVING already analysed the content of morality and approximately quantified its constituent elements, we will advance another step, and see if we can form a chart and estimate of the realisation of this moral ideal among the people, and upon these considerations form an index number. We want to form a quantitative estimate of the moral force of the country. We want to form that, because it is in the interests of the general cause of truth to know not only what our ideal is, but how near we approach, how far we fix it, stereotype it in our conduct. We want an accurate judgment as to the British nation viewed as a moral unit, a moral force. We want it as a standard of comparison with all other nations of the world, as a trustworthy unit for all the purposes of moral science. The British people are favourably circumstanced for such a purpose. No people has had such intimate and friendly relations with the rest of the world for such a lengthened period. No nation has such detachment of mind arising from contact, criticism, and multitudinous interest with so many stranger or dependent peoples.

For this purpose we will form a tabular estimate of the moral condition of the principal classes comprising

the nation. We shall value their realistic relation to each of the constituent elements of morality. Bear in mind this tabular statement is not exhaustive. It is only tentative, hypothetical, and illustrative. For instance, we have left out the female sex, which, as an old bachelor, may be supposed to be a matter beyond our personal knowledge. Though, by the way, we have known bachelors who had a very deep insight into the thoughts and mysteries of the female sex. The classes we propose to submit to analysis and synthesis are—(1) The ordinary man of society; (2) the military professions; (3) the legal profession; (4) the church; (5) science; (6) commerce; (7) financial classes; (8) industry, divided as—1·8 mining, 2·8 manufacturing, 3·8 engineering, 4·8 building, 5·8 agriculture, 6·8 carrying trades, 7·8 distributing classes; (9) the arts; (10) unskilled labour; (11) the wastrels; (12) the criminal element. These eighteen classes we propose to compare together in relation to morality.

We formed this classificatory list as fairly representative of the different social and industrial types of the country. The Government census classifications are those of employment and condition only; they do not contemplate moral conditions and forces *per se*. They are simply arithmetical data, gathered upon no philosophic plan. We had, therefore, to recast the Government tables, and form from them the classes and the numbers of the respective classes we exhibit on the following page.

Morality—m. 1000. Individual Average, ·52.		Ordinary Society.	Military Profession.	Legal Profession.	The Church.	Science.	Commerce.	Financial Classes.
Affection	·052	·064	·040	·046	·052	·052	·052	·052
Benevolence	·046	·064	·040	·046	·052	·046	·052	·052
Courage	·068	·052	·068	·052	·052	·052	·052	·052
Duty	·068	·064	·068	·064	·068	·068	·064	·064
Firmness	·052	·046	·068	·052	·046	·046	·046	·046
Fidelity	·046	·046	·068	·052	·046	·046	·040	·040
Friendship	·052	·052	·052	·052	·060	·052	·052	·052
Honesty	·052	·052	·052	·052	·060	·060	·052	·052
Hope	·040	·040	·046	·040	·050	·040	·050	·050
Industry	·064	·040	·040	·064	·050	·064	·064	·064
Justice	·064	·052	·052	·064	·064	·064	·052	·052
Love of Approval	·040	·052	·052	·046	·046	·046	·040	·040
Patriotism	·068	·064	·068	·064	·056	·060	·068	·068
Patience	·040	·040	·040	·040	·040	·050	·050	·050
Prudence	·052	·046	·040	·052	·046	·052	·060	·060
Reverence	·040	·046	·040	·040	·060	·040	·040	·040
Self-control	·052	·046	·046	·046	·060	·046	·046	·046
Self-respect	·052	·052	·060	·052	·060	·052	·046	·046
Veracity	·052	·052	·060	·052	·060	·060	·052	·052
Aggregate		·970	1·000	·976	1·028	·996	·978	·978
Average		·051	·052	·051	·054	·052	·051	·051
Numbers at last Census, in Thousands.		1700	170	250	54	56	368	68

Mining.	Manufactures.	Engineering.	Building.	Agriculture.	Carrying Trades.	Distributing Trades.	The Arts.	Unskilled.	Wastrels.	Criminals.	
·064	·064	·064	·064	·064	·064	·064	·052	·064	·040	·080	
·046	·046	·046	·046	·046	·046	·046	·052	·046	·040	·080	
·064	·064	·064	·064	·064	·068	·064	·052	·068	·052	·052	
·060	·060	·060	·060	·060	·060	·060	·060	·056	·040	·040	
·046	·046	·046	·046	·046	·046	·046	·046	·046	·040	·046	
·046	·046	·046	·046	·046	·046	·046	·052	·046	·040	·084	
·052	·052	·052	·052	·052	·052	·052	·052	·052	·046	·040	
·046	·046	·046	·046	·046	·046	·046	·052	·046	·040	·040	
·040	·040	·040	·040	·040	·040	·040	·050	·040	·040	·080	
·064	·064	·064	·064	·064	·064	·064	·050	·056	·040	·040	
·052	·052	·052	·052	·052	·052	·052	·052	·052	·040	·040	
·040	·040	·040	·040	·040	·040	·040	·052	·036	·080	·025	
·068	·068	·068	·068	·068	·068	·068	·064	·060	·040	·080	
·040	·040	·040	·040	·040	·040	·040	·040	·040	·080	·040	
·046	·046	·046	·046	·046	·046	·046	·046	·040	·080	·080	
·040	·040	·040	·040	·040	·040	·040	·050	·040	·080	·025	
·046	·046	·046	·046	·046	·046	·046	·046	·040	·040	·040	
·046	·046	·046	·046	·046	·046	·046	·060	·040	·080	·080	
·046	·046	·046	·046	·046	·046	·046	·060	·046	·080	·080	
·952	·952	·952	·952	·952	·956	·952	·988	·914	·718	·672	} Total, 16·886
·050	·050	·050	·050	·050	·050	·050	·052	·048	·088	·085	
1480	2156	800	400	1350	800	350	368	1700	1000	1500	Total, 15.000

We gather, then, from the formalisation of this table, that (hypothetically) the aggregate realisation or effective standard of morality is as $\frac{15{\cdot}000}{16{\cdot}886}$. The aggregate of the numbers of the classes estimated is 15,000,000, practically the whole male working population of the country. Multiplying the two products together, we get the figures in what we may call moral units as 253,290,000,000. These figures, however useful as a basis of calculation, convey no real impression to the mind; they are too large and unwieldy. We have to reduce them to managable and apprehendable proportions. On what principle will we reduce them? Manifestly on the principle of least importance to the subject in hand. We therefore strike out on the extreme right all figures from 1000 downwards, three ciphers. That leaves our numerical equation standing at 253,290,000. But our main figures, the 253 billions, are also for our purpose useless, because they represent the permanent static element of the nation. We strike them out, and our figures stand at 290,000, the limits of possible variation. Still an index number of 290,000 is too large for ready apprehension and daily use; how are we to reduce the remainder to managable proportions? If our statistics of the population and condition of the people continue to be taken at decennial periods, and we see no immediate reason for departing from the practice, then during that period the permanent lapse of 10,000 individuals, that is 1000 a year, from the average morale of their countrymen is not an impossible condition, and yet still one that

would have, or should have, a recognisable influence. Each individual lapse represents 280 moral points. The aggregate moral deterioration of 10,000 individuals would then be represented by 280,000 points. Taking our remainant of ·240,000

we will see what figures are affected by this possible variant } ·280,000

·239,720.

We see, then, that the figures of variance are those of thousand thousands, that is the figures 4th, 5th, and 6th of the equation. We have then to reduce the figures of our aggregate without touching our numerals of thousand thousands, among which any changes in the condition of our formula are sure to present themselves. We strike out the 2 and 4, and have left the four ciphers 0,000. But an index number of four figures is still too large, and we strike off the left hand cipher as being likely to be least or latest affected, and our figures stand as 000 of a remainant as representative of our irreducible index number. We may write it m. 1000. It is rather curious that through such an intricate course of estimates and averages, involving over 250 billion units, we should have arrived, without any intention or anticipation of the result, at m. 1000 as a fairly accurate representative index number of the moral position of the country. Of course it would never remain at that, because, in the first place, it is only an individual estimate, and therefore sure to be altered under public criticism; and in the second place, as we have shown, the lapse of 1000 persons more from virtue (no other counter-

balancing movement on the other side being in evidence) would affect the index number to the extent of being represented as 972. The sign m. 1000 is short, convenient, and easily remembered; it can be written or spoken with equal facility. If any serious change should take place in the social condition of the people (for a very slight change would affect our mystic number m. 1000), then we can always bring in the dropped numeral (the 7th figure), and resume our representation on extended figures. In this scheme we would make no provision for a return from the classes of wastrels and criminals to the effective moral force of the country. An individual that is a wastrel is a moral and intellectual failure, and does not possess the quality of forceful regeneration. His virtue now is negative, to lapse no further and abstain from actual crime. But he is no longer a moral force. The same holds good with criminals. Once past the police bar and your utmost moral efforts result in nothing higher than passivity, in no recurrence of criminal acts. But the criminal is for ever lost as a moral force in society. He never possesses moral initiative, moral influence in the world. Even if the world forget his crime he never forgets it himself. How then, it may be asked, do you secure your moral permanence and progress? We answer, because the death-rate is higher among the wastrels and criminals, while the birth-rate of the average of our countrymen is higher than the number of lapses from average conditions. It is an unpleasant observation to make, but we know it is true.

Of course this return is only the imperfect effort

of an individual. As it stands, any serious change in the moral condition of the people is at once indicated by a change in the figures of our index number. That is its justification, its test of real efficiency and usefulness. No other method yet devised bears the air and reality of practical method that our proposals do. They may be imperfect and inadequate, but they are less imperfect and inadequate than any other method in existence. They have the further advantage of every year becoming more exactly representative of the phenomena they describe and formalise. Moral estimates are made at every moment and in every act of our lives. They amount to *billions every day*. They are verified in the result. They are made unconsciously, but they are not the less true on that account. They have become reflex moral judgments, as instinctively correct, as exactly in touch with actuality, as the feeling of benevolence vibrates at the sight of misery or the conscience responds to the call of duty.

Putting aside minute criticism for the occasion, we ask,—Does not that chart present the phenomena of national morals in a full and clear light, at least in a fuller and clearer light than it could be presented in any other way? Consider the paragraphs and pages required to present all the facts and opinions contained in this schema. It may be said, after all it is only opinion, individual opinion, you have formulated; we are no nearer morality itself than we were before. It is true it is only an opinion of the truth, but what other form of truth have we? The generalisations of science, and the principles of moralists, and the dogmas

of religion are only forms of opinion. But is an individual estimate of moral phenomena so untrustworthy? Our individual conduct is guided and determined in the affairs of life by a form of unconscious experience, the product of years. The judgment we form of men and events is a judgment the grounds of which have been formed by every act of our life, and modified and corrected by our every experience. If an ordinary citizen were asked to set out in detail the grounds of a specific judgment, the statement would appear a very inconsequent and inadequate justification of his position. Yet that opinion by itself, and apart from the manner of its justification, would be true enough, and dependable enough. It would be as valid and as trustworthy as the inductions and deductions of recognised authorities on psychology. But we do not seek to form our moral unit on one opinion, or on even several opinions. What we aim at is a really representative national opinion. We would ask the assistance of all classes in the formulation of a really trustworthy moral unit, a unit representative of the sentiment and conduct of the whole people. University organisations, churches, and learned societies we would all ask to join in a work which is only possible to collective effort. We have hitherto wholly failed to perceive that there are problems insoluble by the individual quite soluble by collective labours. It is a consensus of all informed minds we want.

Neither would that opinion be formed upon a mere inarticulate opinion. Large masses of statistics upon

benevolence, public and private, upon thrift and indulgence, upon industry and idleness, upon pauperism and crime, are at hand, which, taken in the aggregate, furnish a very stable and trustworthy basis to assist the judgment.

Having formed then, after much labour, an effective moral unit or standard for our own country, we would seek to have similar units formed for all other countries. It is impossible to overlook the fact of the superior position, progress, and power of some nations over others. The rate of progress and the acquired position is not the same in all countries. Indeed, there are some, such as Spain, which show unmistakable signs of decay, or, at all events, of atrophy. If, then, we could get their opinion of the relative value of the various elements constituting morality, and the numbers of the various classes of the population affected, we could trace the cause of decay, and suggest the way to recovered progress. Even apart from decay, all our civilisation manifests some modification of the ideal type, or possess distinctive characters which give them individuality. Whether these distinctive characters are worth imitation may be a matter of opinion, but there can be no doubt about the importance of discovering the causes which have led to the modification.

But why seek to show the utility of all efforts, however inadequate, to reduce to order the present chaos of moral phenomena? The first efforts to collect and systematise the facts of natural history gave no promise of the wonderful aggregation of scientific

thought, included now under the science of biology. The structure and habits, the organic descent, the essential unity and slow evolution of all organic forms, could never have been discovered if the first humble observers had suspended their efforts because they did not see that the results would be ultimately worth the labour. We want to make a start in the scientific treatment of morals. Only begin is all. Truth grows upon you. It is discovered in geometric ratio. A single truth to-day leads to two to-morrow, and four the day after. Take Darwin's theory of natural selection. It has revolutionised, and where it has not revolutionised it has modified, the whole thought of the world. All past history and literature has to be rewritten under the additional light he has thrown upon nature's methods.

CHAPTER VIII

We have seen, then, under this bolder method we have attained to truer analyses and more accurate comparisons, and wider and more useful abstractions. We have given illustrations of its applicability to phenomena never before generalised. We have applied it to phases of economics, military science, sociology, and morals. We have quantified in terms of numbers judgments of relation, quality, and modality. We have only one more step to take. We want the national life scientifically formulated. We want every force affecting the national life and character differentiated and specifically enumerated, its value as a factor in the national life determined, its influence in comparison with or in relation to all other national forces fixed and quantified. Finally, we want all these factors placed together in a common chart or schema, and an index number made of them as the standard of comparison, the measure of progression or retrogression for all time, and toward all peoples. In all science you need a unit of comparison, something on which to base your measure of all other relativity. In the same way, in viewing the world as a whole we need a unit of comparison. And no unit of national force is so simple

and homogeneous, and so truly altruistically representative as the British unit.

We want a national psychology,—a psychology not made up from the introspection of a few highly cultured, exceptionally circumstanced, and non-representative individuals, but a psychology made upon observations of the many by the many, the recognition of all well-marked operative forces within the life of the nation. Efforts towards a national psychology have been obscured and frustrated by viewing the phenomena of national life as so many manifestations of a few first principles. We would begin at the other end, and enumerate, simply distinguish and enumerate, all forces sufficiently strongly marked to be recognisable, and that admittedly affected in any way the national character or life. If we go to the British Museum, in a moment we can lay our hands upon a catalogue containing a list of the names of all the divisions, orders, species, and genera under which organic life is classified. If we apply to the same source for a catalogue of all the living forces affecting the national life, we are told such a thing is non-existent. Yet the latter is of more importance than the former. Indeed, the latter may be said to be of vital importance, while the former is chiefly of academic interest.

Having made an exhaustive enumeration of the recognised forces affecting the national life, the next step would be to realise their respective influence in relation to the national aggregate. If all the forces are enumerated, all must have their due influence in affecting the national life. All, however, will not have

equal influence. We must, therefore, undertake a work of comparison, comparing each factor with all the others and with the aggregate, and then apportion—not slip-slop fashion as more or less, but in specific numbers—their intrinsic national value.

When this task is done, every element included, we will calculate or form our index number for that year or that decennial period. And this undertaking is perfectly possible. We will not say easy, but easier now than ever before, and easier than many tasks the human mind has entered on.

Need it be said that such a scheme would be supremely useful. To know all the factors and their relative influences which go to constitute the nation's life would enable us to determine the direction or caste of our effective thought, the whither towards which we now unconsciously trend. It would enable us to fix with precision the chinks in our armour, the moral leakages which go to sap the national strength. If to the active man "know thyself" is a recognised truism, if to know the principles of psychology is a true access of strength to those who would take a worthy part in the world's warfare, surely for the nation itself to know all the forces determining its success or failure as a power in the world, and a world power, is no less a matter of moral necessity. We noticed and read in the *Spectator* of issue 31st March 1900, an article in relation to an observation made by Prince Hohenlohe. The observation was to the effect that, in his opinion, civilisation had ceased to advance, that the progress of the world was arrested, that we had entered on one of those

eras in the world's history when the human mind halts to rest, to consolidate its gains, to enjoy the fruits of its sacrifices and labours. That was the Prince's opinion. And he is exceptionally placed to form an accurate opinion. He has been in touch all his life with all the governing men and governing forces on the Continent. This opinion has evoked much controversy. One half of the critics say it is true, the other half say it is false. The greatest matter for surprise appears to us, not that it is true, or that the opinion is false, but that there should be any room for doubt or controversy about the matter. Why was Prince Hohenlohe not able to turn up his *Statesman's Year-book* and say as a matter of fact, demonstrable fact, that civilisation is arrested. Or why are his critics not able to put their hands upon irrefragible evidence or data to confute him, and not only confute him, but, as all scientific data does, make him confess his confutation. Is it not an intellectual and moral scandal upon our age that on such an absolutely vital question we have nothing but vague conjecture formed by rule-of-thumb methods. Why, what question can be so important as this indetermined one, as this question which we have no method at present to determine. If science is questioned, it can tell us the rate to half-a-mile some of our fixed stars are advancing to or receding from the earth, it can tell by its teeth what the opteryx fed on, it can tell by the development of the jaw the character of the rind of the fruit our anthropoid ancestors supported life upon, but it cannot tell us whether our civilisation is progressive, stationary, or

retrogressive. This is the blot we seek to erase, the gap in our knowledge we seek to fill. We say the nation owes to itself—to itself now and to the future of the world—to determine by scientific methods its present position as a world's force.

What, then, are the *practical* steps we must take to form the data for this scheme. To begin with, we need not expect this work to be rushed through in a week or a month. It will require time for due deliberation. If it should occupy two or three years we will consider the time well spent, and the task rapidly accomplished. We would desiderate a leisurely accomplishment, because while you can raise the enthusiasm and energy of the people to one effort, even one prolonged effort, if that effort miscarries or turns out a failure, a generation will pass before they can be induced to try another.

Neither would we present the whole scheme for practical solution at one time. Accurate judgment is slow to form, it needs concentration of mind. Obscure sources of reliable truth take time to come to the surface. We think, then, the first efforts should be exclusively devoted to the simple task of distinguishing, enumerating, and classifying the constituent elements or plainly recognisable forces going to make up our corporate national life. After that is accomplished we would enter on the much more formidable task of comparing and valuing these several elements of force.

As to the persons who are to undertake this task, we make a new departure. Individual effort has tried and failed. We now turn to collective effort. The

introspections of the favoured few do not represent the thoughts, emotions, and motives of the working many. Our psychology is the psychology of the cultured; it is not representative. It is not the psychology of those who have built, and who constitute and maintain the nation. The perfect man is the average man. Your exceptional man, whether in culture, or emotion, or in failure and crime, is a monstrosity in the eyes of nature. Such men are sports, living hypotheses, offering themselves to nature for adoption, for incorporation into the real living power, the real living nation—the people. A nation never was served, never was made on exceptions, but on the general average of worth of its citizens. We want, then, the opinion of our average citizen, the men of affairs, the men who conduct the business, manage the politics, and make the sacrifices of the nation. We want their opinion as to the forces which influenced themselves, which they have observed at work around them, and which they have successfully determined their own conduct upon. We also want their opinion of the relative value of these forces. These forces are not all of the same power or have the same influence upon the national life. Our practical citizens know this, and have appraised these forces at their true value in everyday affairs. Those that have estimated them correctly are now prosperous and successful men; their judgment has been verified in the result. Those that have not been successful are living testimonies to the penalties attached to careless observation and inaccurate judgment. We want a psychology of the nation as it really is.

We appeal, then, to collective effort to enable us to form our initial unit. This collective effort will be best secured by obtaining the assistance of the various public bodies and scientific societies. For example, besides the universities and churches, we have in Scotland above twenty learned societies with skill and knowledge adequate to such a task. But we would by no means confine our collective opinion to the learned and wise. We would take the opinion or criticism of such bodies as the Chambers of Commerce and Trades Councils, and others like them. We are dealing with facts, collecting and arranging our everyday experience, and only those with that everyday experience are competent to describe and value them. We all know the difference between theory and practice, between the camel evolved from the inner philosophic consciousness, and the ugly, ill-tempered, though supremely useful quadruped that does duty under that name in tropical countries. Believe us, there are many camels in psychology and morals that bear not the faintest resemblance to the actualities that are met in the battle of life.

We have, however, another reason for seeking stability of judgment in extended personal experience. The bane of all speculations in moral science is that element of variance, the personal equation. The very mental attitude of study and introspection, especially arduous study and close introspection, is to remove the thinker from the normal everyday attitude of mind to that of the abnormal. Not only so, but under these conditions, the personal points, the idiosyncrasies in the

individual character, assume undue prominence. The normal, the practical, the immediate touch with the world is absent, is not livingly present. The result is that phenomena and states of mind are falsely proportioned. Any way, this element of variance is a fact manifest to all students in moral science. By collective, non-personal effort, we remove this personal equation altogether. It is not only that in collective effort you necessarily approach nearer to the opinion of the average man; you reduce the importance of any one variation by the number of factors participating in the solution of the problem. For instance, one variant opinion among ten is important, but the same element of variance in a thousand is comparatively unimportant. But further, in collective opinion individual variance counteracts itself. The variance on one side is counterbalanced by the variance on the other. Taking the views of moralists and economists, nothing is more striking than this swing of opinion. As Hume on the one side and Hegel on the other, as Locke on the one side and Berkely on the other, exaggerated the importance of the special truth they respectively gave to the world, and the real truth lay in the happy mean embracing and reconciling them, so in the task of diagnosing the living forces around us there is the same exaggeration or accentuation of individual views among contemporary moralists. It is thus no mere matter of convenience that we seek to base a national psychology on the widest experience, but a logical necessity to remove a disturbing element in thought.

This statistical and numerical method (the index

number), when established as accurately representative of our present national life, may be successfully and usefully applied to successive stages in the country's history—indeed, of any country's history. We have abandoned the personal, pictorial, dramatic style of describing history. We have adopted the philosophic mode. We seek to follow movements rather than events, and causes as much as their visible effects. But if, under the pictorial histories, we have too much of the superficial and dramatic, too much of intrigues and battles and such adventitious events, in the philosophic mode we have too much theorising and philosophising, and too few data and particulars to form the groundwork and justification of philosophic reason. We need scientific history—history pursued under strictly scientific methods, of which the collection and formulation of data is the preliminary and the main work. If philosophic history is the structural skeleton, and pictorial history the features and external form of an era or age, the scientific history is the flesh and blood, the functional organs of the period. It sounds prosaic, but we want a more definite conception of the common life, the common wants, and common acts of the common people. They are our historical grandfathers and fathers, and we propose to use them, as all grandfathers and fathers should be used, for our present personal advantage—we mean national advantage. For that purpose, starting in the unsavoury atmosphere of semi-barbarism—and that semi-barbarism is at its best an unsavoury matter we believe, despite all "The Tales of a Grandfather"—we

would mark and estimate such qualities or activities as are still represented in our index number, what have come down to us. We would also note what our forefathers had and we have not. We would note the gradual accretion of the main features of our own civilisation. We would form an index number for every century if materials for such a purpose can be found. We can apportion the relative value of the main features to the civilisation of their own day, and estimate their power in relation to that of ours. Under the record of each century so expressed, we could see at a glance the gradual accretion of the complex we call civilisation. Taking modern civilisation at a 1000, what number would be indicative of the periods of serfdom and feudalism, of the period before the Reformation and the period after, of the century of Cromwell and of Charles, of William of Orange and the last half of the eighteenth century, of the time of the French Revolution and the present Victorian age.

CHAPTER IX

We have said we seek the formulation of a national psychology, an analysis and differentiation of all the effective forces constituting or affecting the national life. We have expressed our distrust of a national psychology founded upon individual introspection, because in individual introspection the personal equation, always an element of variance, is ever present. Apart from that circumstance, at the most it is only the psychology of exceptionally circumstanced and specially gifted individuals. We have further found it inadequate, because not only does it not show the order of evolution in the individual and the race—a very important consideration—but it does not throw the slightest light upon effective and non-effective moral forces. All will admit the genesis or the potentiality of every human sentiment, and motive is engrained or lies hidden in every human mind. An analysis of the mind of an individual in the time of King Arthur or the time of Socrates, if efficiently conducted, would have revealed in activity or immanence every moral principle characteristic of the mind of the present day. That there is any apparent discrepancy is simply because much of the latent powers were inactive or undeveloped in these

earlier times. The same thing is characteristic of present day introspection. We show what is active or immanent in the individual mind, but we do not show which of it, or how much of it, is operative, effective, or influential over conduct. That brings us face to face with this other truth, not sufficiently recognised, that modifications of a first principle become, when the departure is sufficiently pronounced, principles themselves,—that is, forms of moral forces capable of clear delineation and of definite function. We take the term "rightfulness" as a first principle in morals. Now, in course of ages, that principle has developed on several well-marked lines. It has in conduct developed into truthfulness, honesty, justice, and scientific accuracy. Yet, though all four forms have descended from the primal principle of rightfulness, it cannot be denied that truthfulness, honesty, justice, and scientific accuracy (the attitude of mind impelling to strict intellectual accuracy and truthfulness) are separate social and moral forces, easily recognised, readily tested, and separately operative. This marks another crucial objection to our present method in moral science. We carry on abstraction, and abstraction ever seeking an all-embracing thought unit. But that process of abstraction is a process of emasculation, the elimination of concretion, the exhaustion of particulars, so that what is left is an empty notion, a soulless ghost without any but the most distant relation to actuality, and without the slightest practical use in estimating or guiding national life.

In diagnosing the national life from the outside,

viewing it as an externality, we seek to differentiate all national movements which can be recognised and which are effectively operative. We thus get rid of what is simply immanent or what has become obsolete. We see the relative strength of the different forces. No true thought in the human mind lies dormant; it seeks realisation. There is a time element in the unfolding of the idea. The when is no haphazard contingency in the passing of the ages. Further, when we find a national force operative, we will not seek to reduce it to simpler elements. We will take it as it is, a complex combination among moral and national elements resulting in an effective synthesis, producing results only possible to that combination and while in that state of combination. Too often we cannot see the chain in the contemplation of the separate links, but among national forces combination is the effective power, the individual links in the chain being unimportant. Action, result, are our starting points, and we form our psychology upon them.

If there is any justification required for this longing for a new procedure, it lies in the fact that our national life is now as it never was before. In the fulness of our ideal, in our sense of obligation, in our sympathy and interdependence with one another, in our power, our will to give effect to the national aspirations and progress, we are greater and more forceful than ever before. At the same time there are forces operating within the national life of which the world hitherto has had no knowledge and no experience. Though they are within our experience now, we cannot

say that they are within our knowledge. We must recognise the fact, that within a century our whole condition and surroundings have been changed, yet there has been no corresponding change in the writings and speculations of our moralists and philosophers; that their works, so far as present day national forces are concerned, might have been written in the eighteenth century as well as the nineteenth. Looking at the vastness of the changes since the beginning of the century, there is a suspicion raised in the mind that our national psychology is incomplete, that there are forces or conditions among us which have not been observed and have not received recognition.

Let us take the simple fact that the population of these islands has increased during this century from 15,000,000 to 40,000,000 souls. The superficial area of these islands has not extended an inch. Now is it possible that such a great fact, the fact of the vastly increased number of persons living in these islands, should not have many great effects and also many new effects. Regarding man simply as an organised being, and considering no other influence but his increased numbers in a strictly limited area, what consequences have followed? Man is no mere mass of dead inorganic matter. On the contrary, he not only lives, but in living he is constantly generating vital energy, a form of force not only sufficient to keep in activity all his bodily organs, functions, and processes, but sufficient to expend a large amount in bodily exertion and mental activity. Few realise what an immense amount of energy is generated and expended by the aggregate

population in a single day, a single hour, aye, even a single minute. An ordinary man—that is, a person of average health and strength—will lift one cwt. from the ground. A woman's greatest strength is not so much dynamic as static. She can bear a prolonged strain better and easier than a man. We are safe in assuming that the average woman has muscular power equal to lifting one half the weight a man can. If we assume the average lifting power of the total population to be 56 lbs., we make a very liberal allowance for old age, young persons, and individuals in bad health. The population of the country is 40,000,000. Forty million half cwts. is 20,000,000 cwts., 20,000,000 cwts. is 1,000,000 tons. Just think of it, the human vital energy in the country at any given moment can lift 1,000,000 tons weight. But what of the sum total of vital energy, nerve force, generated and expended in a day, in a month, in a year. Probably a light day's work would be the expenditure of energy in various forms for an average period of eight hours, an energy capable of lifting one ton weight. That would give a mechanical equivalent of 40,000,000 tons of energy expended by our population every day. Taking 300 days in the year, we have the expenditure of energy by the British people, in their own country alone, of the enormous amount of 12,000 million tons annually. It is presenting the facts and figures in this way that brings home what an amount of energy man generates and has at his disposal for expenditure upon matters that interest or affect him. It is very noticeable that when a man is not working he still generates force or the

material from which force is drawn. It is impossible, then, that the fact of the population of Great Britain having doubled within a century cannot but be of the greatest importance, and must affect the national destiny in many new ways.

This vital force is effluent. Effluence is its normal condition, the distribution and dissipation of vital energy is always going on. That sympathy between individuals results in an interchange or blending of that subtle force which constitutes what we call life, is, we think, demonstrable. We think we can also show that identity of interests or emotions, and even identity of intellectual thoughts and ideal conceptions, produce a condition of mutual spiritual concord and sympathy, which results in a mutual effluence or interchange of vital forces uniting the individuals in a new unnoticed vital relation or spiritual tie.

There can be no manner of doubt about the interchange of vital sympathy between individuals of opposite sex. A look, a word, a touch between man and woman sends a thrill through both, and then perfect concord and calm. That is a matter of every-day occurrence, and in the living experience of every one. Between friends of the same sex the same phenomena is observable. I meet an old friend in the street. I was just wanting to meet him. I have at last secured the solution of a problem that interested both. I put my arm through his to turn him and talk to him. Immediately there is a pleasurable and most perceptible thrill passes between us; a common effluence, our sympathies blending, our souls adjusting

themselves to perfect mutual concord; and then perfect concord, perfect candour, and perfect interchange of views take place. It is particularly noticeable in crowds. The psychological moment of the tragedy on the boards of the theatre sends a thrill through the whole house. That is not a figure of speech. It is a psychological and physiological fact, the conscious experience of millions. In large crowds strongly agitated or moved by sympathy and expectation it is even more apparent. For instance, on the processions and services attending the Queen's golden and diamond jubilees, the intense thrill that passed through the people where the crowds were massed in greatest numbers could have been measured by a suitable instrument. That is, not only would the normal action of a magnet have been disturbed, but a galvanometer would have registered the passage of specific force. We can speak with greatest accuracy, however, about such a recent event as the visit of the Prince of Wales to Edinburgh last year, because then we were consciously observing the phenomena. That spiritual force belongs to humanity *per se*—that is, that it is produced in every individual, and that when crowds are simultaneously excited by expectation and attention toward a common object it becomes pronouncedly apparent—we satisfied ourselves. Where we were stationed there were a number of false alarms, all of which were accompanied by this common, though quite perceptible thrill. Several local magnates passed us, and the thrill was again apparent. When the Prince passed us, and immediately before and after,

the thrill was as strongly marked as any psychological event in our life. That it was the general experience we saw by the looks of those around us. Now, we particularly noticed that when the crowd dispersed there was a change in their look, in their pose and carriage, in their voice and talk, and in their whole attitude towards each other.

Let us give one or two illustrations of identity of sympathy and interest affecting intellect. We went to see Roberts when he played his match at billiards with Diggle last year. Now, we are not a good player of billiards ourselves, but we know the game. We had a good grounding in mathematics and physics, and we have the theory at our finger ends. We had been playing regularly before our visit, so that we knew our score to a nicety. The hall was well filled, and filled with billiard players, who gave the very closest and most absorbed attention to the game. We were in a billiard "atmosphere." The play was brilliant, the execution perfect; but of course to a person well grounded in theory there was nothing new. Still it was a marvellous exhibition of skill. When we returned home we played as we never had played before. Not that we played any new shots, but that our general play displayed a new and wholly unexpected accuracy. So impressed were we with this fact that we returned to Queen Street Hall to see the last day's play. That evening and for several days succeeding we shone in billiards until the superficial and temporary influence under whose spell we temporarily lay passed off, and we relapsed into our normal

condition of a "perfect duffer." There can be no doubt of these facts; they are true. The explanation we give is that the hall was filled with persons of specific skill following with absorbed attention particular mechanical movements. We were all in touch physically and intellectually. The cerebral centres exercised were those exercised in the best of play. Through sympathy the proper cerebral centres producing good play were stimulated even in those who had not the highest skill, and who normally exercised cerebral centres not of true mathematical precision. But in the case of those who had received the true impressions from sources outside themselves, the effect was evanescent, and soon passed away.

We have no high artistic feeling. We enjoy the view of a beautiful picture in the same way as we enjoy the sight of a beautiful woman, without conscious criticism. But we have not that fine æsthetic sense that sees harmonies and beauties veiled from the common gaze. Returning home by railway (a journey of three or four hours) with a very old friend, a Fellow of the R.S.A., we had a long and sympathetic talk. Reaching home (it was a Saturday), we looked over the weekly illustrated journals, *The Graphic* and *The Illustrated London News*. We found we viewed them with an interest, an insight, and a critical observation which were to us entirely new. This was so noticeable that we specifically recorded the circumstance in our memory, though at the time we had no explanation to offer. Now, we are convinced that our artistic sense

was stimulated or coloured by close and sympathetic contact with our artistic friend.

Again, we were deep in some metaphysical problems and philosophic speculations while staying in a country house. The society we met day after day was totally estranged from that attitude of mind favourable to such speculations and dreams. In the course of a month or two, however, we had as visitors some university men. It may have been coincidence, but it is the fact, that with their advent all our old interest in and perception of these questions returned, and we saw our way through the haze that had temporarily obscured our judgment, and that before we knew that several of the visitors were interested in identical inquiries.

This phenomena of sympathetic influence, this effect of contact and association of mind with mind in the daily business of life, is what the Roman Catholic Church refers to as a Catholic atmosphere. The daily contact, and even contiguity, of persons of identical interest produce identity of moral sympathy, similarity of emotions, consensus of opinions. Every person is at once an efferent and sympathetic vehicle, a factor at one and the same time, of effluence and receptivity. This gathering together of the faithful, this attempt to make of Catholics in this country a separate and peculiar people, is the deliberate policy of "the miracle of human wisdom." For us, however, we only adduce it as another illustration that simple residence in a country, simple contiguity, simple contact, is a matter not of indifference to every individual so residing. The

influence is so subtle, so universally present, that, like the existence of the air we breathe, it requires a special experience or a special circumstance to make it apparent. But it is none the less real on that account. If that influence of mere contiguity is a fact, the increase of population from below twenty to forty millions is a very important factor in determining the national character.

That is one element of change; we will state another. Last year 1500 millions of the people of these islands travelled by railway train. Think of it, 1500 millions! It is impossible such a fact can be without influence. What a change from the old days. Probably 10 millions represented the number of travellers annually at the beginning of the century.

This extension of travel in numbers, in distances, and by all classes, is a peaceful revolution. It brings all classes within sight of and in contact with each other. It carries centres of enlightenment and energy to every part of the kingdom. It abolishes "sleepy hollows," and nationalises local opinion. It is a movement toward greater homogeneity. But what of the physical effect of this universal mode of travel and the psychological consequences of this physical effect? We are conscious of the vibratory sensation experienced while entrained. An infinity of infinitesimal shocks are received; are they without consequences, serious consequences? We speak of the fatigue of a railway journey. It is a real fact. Personally, a journey from Edinburgh to London is as exhausting as a walk of thirty or forty miles. This fact affecting 1500 millions incidents in the national history every year, deserves

specific scientific attention. But railway travel is not the only change in our stationary habits or static conditions. Formerly masters and servants lived beside or in their places of business. Now everybody lives as far away from them as possible. The result is our streets carry a traffic such as never was known before. The whole body of the citizens are more before each other, more in public contact with each other, than ever before. There is a physical blending of the whole population. Eyes meet, bodies jostle or touch, ears hear, that would neither see, touch, or hear in any recognised social function. Our social life is becoming less private and restricted and more public. But if man is a magnetic unit, a generator and distributor of force, then all this public contact means the unconscious unification of national sympathy and the similar colouring of national thoughts, or the predisposition to common sympathy and to true thoughts.

Let us give another illustration of the need for a thorough expiscation of the forces at work in a nation's life. What psychological experience is more general and constant than the sound, the roar of the traffic in our streets. It is impossible such phenomena does not affect the national mind. People admit it affects their nerves but not their mind. If it affects their nerves it does affect their mind. We showed at a former part of this paper the extraordinary effects of music on states of consciousness, and that the *modus operandi* on the physical side was the impinging of certain vibratory motions in the ether on certain cerebral centres. We admitted such musical sound forms were in general

of a beneficial character, or, what is even more important, could be made so. The sound of the street traffic impinges on nerve centres; they also liberate nerve force. They cannot be controlled. They are terribly uniform. They affect every class alike. Now is this sound action a disintegrating force on our long accumulated cerebral static forms? Our brain is the personal and national dynamo where accumulated force rests until liberation. Will music modify or correct this traffic noise? Is the growing popularity of music but the dumb unconscious response of nature to a growing need, a guard against a hidden danger? There may be a good deal of accuracy in Prince Hohenlohe's opinion after all.

Another problem: What of the psychology, the position, influence, and functions of the female sex? They constitute one-half of the human race. Are they the static element; are they the complement and counterpart of the male sex? Is man, perfect man, man as a moral and national unit, really a duality, himself and his spiritual affinity? We have no work on the psychology of the female mind by a female. They have always been psycholised under the term "man" and by men. And such men, either crusty, studious old bachelors, some of whom never saw a woman, and all of whom must, through a sense of common decency, confess to utter ignorance of the hidden mysteries appertaining to the female sex and character. Some, no doubt, are married, and it might be said that they, at all events, are competent to diagnose the female mind. Well, we have our doubts

about it. We strongly suspect the wife diagnoses accurately the husband; the husband never diagnoses exhaustively the wife. She remains a hidden mystery, an esoteric equation. We anxiously await, for more reasons than one, a psychology of the human mind, male and female, by a lady.

Then we have the spread of education, the universal diffusion of knowledge, the ubiquitous press—these and a thousand other influences we never had before, to correct, to mould, and to concentrate public opinion, to synthesise into one common effort a nerve force whose mechanical equivalent is the lifting power of 1,000,000 tons. Is it any wonder, then, that we are a nation in a sense we never were before: that the nation has reached the stage of self realisation with a fulness it never before was capable of: that we have reached the stage of collective consciousness. We know this is psychological heresy, that the nation is composed of individuals, and so on. But, nevertheless, we hold there are collective states of mind which only exist, and are only possible to men living under corporate conditions. Take an army, and diagnose every individual in it, from the general to the drummer boy, and we say there is a moral element left, which only exists and is only possible to the united army, to the army as a whole. Take the different races and analyse their members individually, and there is no essential difference, that any psychological process can discover, to distinguish one race from another. But there are left essential racial differences all the same. We appeal to those of foreign travel if our statement is not

true. And this essential characteristic is born of the collective experience, the environment, the common history, the common descent, and the prolonged contact and intimate association of all the members of the race. Take the Jews. Is there no more in their character than what the psychologies of Locke, Stewart, Hamilton, Martineau, and Calderwood have recognised. We think, then, we have indicated what we mean by a national psychology, why we approach it through externality, and why better methods are required to exhaust the truth in it and reduce it to a coherent whole.

CHAPTER X

We have said, in this country as a people we have reached the stage of national consciousness and national volition. The nation's heart pulses on one beat. On crucial national interests it feels as one man, and acts as one man. Its united intelligence is simultaneously directed to the solution of its national problems. It has passed through the stage of blind inarticulate guidance, and emerged in the light. We ask it to know itself, to know the truth about itself without prejudice and tenderness towards its own weaknesses, to know the sadness of the heart that follows the truth. But if it is sad to strip the glamour of self-appreciation from our eyes, at least it leaves us with the steady courage and prophetic outlook of those who see the truth.

We have reached the stage of intellectual and moral freedom with all its responsibilities and cares. And after all, what does our boasted freedom amount to? It is only to adjust ourselves consciously and willingly to the order and on the lines of the unfolding of the great purpose. To consciously adjust ourselves to the inexorable. The truth tells us if we do not join nature's synthesis our fate is extinction. The Force moving toward Rightfulness will leave us behind.

What a terrible fate, to live with arrested attention and atrophied energy, while the world's power moves on heedless of our struggles to regain the lost initiative, heedless of our regrets at the lost opportunities. Our national fate, in these circumstances, would be like that of the leper. With open eyes and clear consciousness of the ultimate issue, we would see the canker spread through our system, see our limbs drop off one by one, see ourselves shunned as a pariah among the nations that were prompt and courageous enough to seize the psychological moment, until even the thought of national extinction became no longer a fate abhorrent to our conscience, and we would willingly seek burial and namelessness under the ægis of races we might have led. Nature is a merciless, inexorable mother. She only loves her virile children. Her weaklings she casts into the Tiber. It is these thoughts that are ever pressing upon us the inadequacy of our estimation of the conditions of national vitality, and which prompt us to turn our highest intelligence from the contemplation of exhausted problems to "fresh fields and pastures new," to a probing for new forces, only the faint rufflings of which appear on the deep tideway of the nation's life.

But surely, having seen the truth ourselves, we are not going to rest there, surely we are not going to limit our aspirations by the narrow limits of even the most perfect nationality. There is another step to take, to rise from the national to the racial, to the altruistic. We say our country is a unique national unit. It is perfected through its many interests, its

varied character, its long historic experience, and the initiative and forcefulness of its people. But surely to sit still in self-contemplation, in the enjoyment of the fruits of our sacrifices and victories, would be national selfishness—base selfishness. Our own national development is only the means to a greater end, the realisation of consciousness by the race, an intelligent volitional racial condition. Altruism is in the air. It has passed from the phase of pious hope and academic discussion to a tacit assumption, to a weighty though inarticulate influence upon our public men and moralists.

The whole race is now in possession of those practical, remedial, and modifying forces which have made our own country prosperous, intelligent, and free—free, because in the possession of the truth. The whole race is in possession of the press and telegraph, of the means of intercommunication, of the common field of knowledge, and the powerful ties of economic interests. Old civilisations, blind with the ignorance of ages, are stretching toward the light. The dry bones live. We have seen Japan bound at one leap across the chasm of 2000 years. China only waits for the dissolution of a moribund officialism to stretch its limbs and look around in all the fair proportion of a perfect manhood. The great body lives. It is only swathed in obsolete and stifling garments. We can see evidences on every hand of this new racial movement. The fundamental movement of the present day is toward aggregation—racial aggregation. The strengthening and expanding of strong nationalities, and the contrac-

tion and elimination of small ones. The world will soon be ruled from a few great centres. It is the unconscious pressure of this movement that spontaneously impelled the colonies and dependencies of Britain to come to the help of the Mother country at the outbreak of this South African war. These are straws showing the direction of the wind. They drift in one direction, the realisation of the altruistic ideal. In the beginning of the century we were at war with the world for our own national existence and interests. We acquired colonies and dependencies in our own exclusive interest, as a means of fostering the wealth and strengthening the power of Britain. But now we acquire no territory but on the simple ground that it is in the interests of the annexed people and of the world at large, of our common civilisation, that these people come under the strong common-sense, unfailing justice, and strong right arm of the British crown. Nay more, we say, and we believe we say truly, that we would retain no people under the British flag if it were not their best interest to remain so. We consciously adapt our rule to fit the dependent peoples for self-government, and contemplate ultimately nothing but a voluntary tie. If that is not a true altruistic sentiment we do not know what is. And we are consciously seeking its realisation. In every journal and speech we trace this tacit assumption that the racial ideal is our ultimate goal—is, in truth, our new ideal, that the national must give way to the altruistic conception.

There are many ways we, as a nation, can help to bring about this racial union. There is no way more

effective than commercial intercourse, the tie of mutual and extended interests. We can bestow the favour of a successful rule and a well-tested civilisation upon dependent peoples who have fallen behind in the struggle of existence. We do not mean absorption by conquest, but by invitation. Our pronounced success as rulers in Egypt and India we believe will, in a few years, exhibit another mode of extension of empire other than by arms. Our surplus population is a real missionary element, moulding the destinies of the world, and trending toward unification. More especially will an altruistic cast be given to their thoughts in other lands, if they live to manhood in an atmosphere where the collective consciousness, duties, and interests are discussed in the light of a higher end, and that end a mission and a hope. We can offer ourselves to the world as an object lesson, not in the self-righteous sense, but as a successful national unit, possessed of all the data and conscious of all the national forces leading to success. We would offer ourselves for moral dissection and imitation. Our religion also is cosmopolitan in sentiment and capable of universal extension. Whatever can be said against it, this can be said for it, that it presents religion in the most lovable form. Its founder, as we find Him in the four gospels, is one of the most lovable characters recorded in history. All through, His teaching is that of reasonable sweetness, the inculcation of a beautiful yet simple morality. As a religion it is essentially democratic and kind. "Peace on earth, good will to men" is its foundational message. In contrast with other religions, Christianity

has nothing to fear. It has a rare power of rousing missionary zeal and devotion. Finally, we have our contributions to the living intellectuality of the world as a tie to synthesise its higher sympathies. Altogether, the cause of progressive civilisation, the cause of humanity, looks bright.

CONCLUSION

We have been induced to reduce the foregoing observations to writing under a strong conviction that our recognised moral science, the moral science taught in our schools and colleges, is, on its present lines, out of touch with a great deal of actuality, with the living forces now at work around us. Moral science was formerly taught and investigated as a basis of religion. It was regarded as the handmaid of dogmatic theology. It was only countenanced and taught so far as it was subservient to the primal interest. That cloud still hangs over it. Within these limits speculation is an exhausted quantity. We would now seek to turn that acumen now wasted to the newer problems awaiting scientific investigation. In that purpose we include a more scientific treatment of the phenomena of modern experience. To assist that consummation we suggested more specific definitions of the terminology of moral science and the use of brief and convenient significant forms. We suggested an improved method of analysis, comparison, quantification, and formulation. To gather large masses of particulars together and the phenomena of periods into convenient abstractions, we showed the possibility of applying the principle of the index number.

By this process we represented under a known and universally recognised formula millions of particulars and fleeting and changing phenomena. These phenomena can be systematised and made intelligible by no other process. They are made stable thought units. Our proposals involved the taking of the nation into our confidence to secure a real representation of experience. This collective effort would rid us of the variant personal equation. We suggested the practical measures to be adopted to realise our proposals. We stated one or two instances of the forces now affecting the national life which have hitherto received no recognition and been under no investigation. We asserted our heretical belief in a national consciousness and volition as something other and over and above the phenomena of individual consciousness. Finally, we contemplated as a permanent attitude of mind the scientific treatment of moral problems starting not from *à priori* grounds, not as the manifestation in experience of a few first principles, but as effective social forces in the forms, combinations, and conditions we see them operative in the world around us.

THE FORMATION OF PHILOSOPHICAL OPINION

BY

WILLIAM MITCHELL BOWACK

Opinions of the Press

"In this volume we have an attempt to introduce some order into the chaos of unphilosophical opinion, and the purpose of the writer, in the first essay at least, is to show that the study of these informal conceptions yields quite as valuable results as those which may be obtained from the orthodox investigation of systematised thought. In order, however, to trace the lines of development, the informal must be viewed as passing into the formal, and the influences which determine each process must be carefully considered. Mr Bowack contends that by far the most important factor in the moulding of thought is the natural and social environment of the thinker, and he adduces many examples from the history of philosophy to prove his contention, all of which, however, are by no means equally valuable supports of his theory. In the general growth of opinion two trends of ideas become prominent. By some

the principle of all things is found to be material, and by others it is regarded as spiritual. Both conceptions take their rise in animism; the former passes through crude materialism to pantheism, and the latter through polytheism to theism. The natural surroundings of the different races have to a great extent determined which of these two methods of investigation is to be adopted. In India and the countries of the East, where Nature is vast in her manifestations, the helplessness of man leads him to bow in deeper worship before the majesty of the world around. By degrees his devotion is confined to the more important phenomena, and from adoration of them he passes to the conception of an invisible force which is at the foundation of everything, but itself unknowable. Spiritualism is confined, for the most part, to those regions where man has early become conscious of his power to overcome the forces of Nature, and to utilise physical phenomena for his own purposes. His intrinsic capabilities are now the most important principles in the universe, and are used for the explanation of all mysteries. Conceptions of this kind gradually pass from superstitious polytheism to a more or less rational theism, and the highest point is reached when the fundamental in thought is perceived to be the real in phenomena. The history of this process is the history of the greater part of ancient and modern philosophy, and Mr Bowack supplements his theory by a brief analysis of the most famous and influential metaphysical doctrines. The discussion ends with an optimistic prophecy of future achievements in philosophy, when there will be given to the world a new principle, more perfectly adapted to our knowledge, needs, and hopes, and capable of utilising the ever-increasing array of scientific facts and the accumulating experience in political, social, and religious life. The essay on 'The Future Mind' discusses the question of how, in view of this vast mass of material, we are to avoid the dangers of extreme specialisation on the one hand, and of merely verbal reconciliation on the other. Mr Bowack thinks that a remedy may be found in a gradual accommodation of thought to the facts with which it has to deal—the development, on the same lines as the evolution of habit, of a sort of reflex action of the intellect. He argues

that what is possible in one sphere of conscious life should be possible in another. Our powers of reasoning and synthesis may be further helped by a reform of the current systems of grammar and calculation, and by the appointment of a scientific Revision Committee for the arrangement of accepted knowledge, and the exclusion of obsolete conceptions. As a whole, the chief value of Mr Bowack's book lies in the fact that he has worked into a consistent theory ideas which are not usually considered together, and in doing so he has given a fresh and interesting account of the main anthropological and philosophical investigations of both ancient and modern times." —*Aberdeen Free Press.*

"Two thoughtful and readable essays by William Mitchell Bowack, who shows in the handling of his subject a grasp of the history of philosophy and considerable power of speculation. A notable feature in his sketch of the history of philosophy is his inclusion of what he styles informal philosophy, or the value of the thought contained in recent investigations into the religious and speculative opinions of primitive peoples, and in the light thrown upon such subjects by the long-buried literary treasures of ancient Egypt, Assyria, India, and China. Formal philosophy is applied to the works and systems of the recognised authorities in speculation. It is pretty well admitted that we shall always have philosophy with us. Every age has its own problem to solve, and it sounds almost like proving a truism when the present writer brings forward examples to show that the multiformity of the formal philosophers is the consequence of their environment or of circumstances of time and place. Still he believes that we shall shortly have a full if not a final synthesis in philosophy which will receive as full acceptance as the teaching of Newton or Darwin in the scientific sphere. In the second essay is discussed the question—What are we to do with our vast accumulations of knowledge in all branches of science and our ever-accumulating experience in social, political, and religious life? The author recommends as practical measures the establishment of a permanent State-appointed Scientific Re-

vision Committee to control a national encyclopædia of accepted knowledge, the reform of our system of grammar, and the adoption of a scientific method of all arithmetical relations. A good many, on the other hand, will with good reason sympathise with Virchow's vigorous protest against the tyranny of dogmatism, for which a wide entrance is thus laid open. 'In natural science, as in all else,' Virchow truly said, 'real work, even if it produces only isolated results, is a better security for the durability of progress than the most ingenious speculation.' And too often in the history of science has ingenious speculation been temporarily accepted for established truth."—*Glasgow Herald.*

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